



CITY OF PITTSBURG
Development Services Department
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September 15, 2010

Bruce H. Wolfe, Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Ms. Pamela Creedon, Executive Officer
California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Dear Mr. Wolfe and Ms. Creedon:

Enclosed is the 2009 - 2010 Annual Report for the City of Pittsburg, which is required by and in accordance with Provision C.16 in National Pollutant Discharge Elimination System (NPDES) Permit Number CAS612008 issued by the San Francisco Bay Regional Water Quality Control Board and/or by Provision D.5 in NPDES Permit Number CA0083313 issued by the Central Valley Regional Water Quality Control Board.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Very truly yours,

Keith R. Halvorson
Assistant City Engineer

Table of Contents

Section	Page
Section 1 – Permittee Information	1-1
Section 2 – Provision C.2 Municipal Operations	2-1
Section 3 – Provision C.3 New Development and Redevelopment	3-1
Section 4 – Provision C.4 Industrial and Commercial Site Controls	4-1
Section 5 – Provision C.5 Illicit Discharge Detection and Elimination	5-1
Section 6 – Provision C.6 Construction Site Controls	6-1
Section 7 – Provision C.7 Public Information and Outreach	7-1
Section 8 – Provision C.8 Water Quality Monitoring	8-1
Section 9 – Provision C.9 Pesticides Toxicity Controls	9-1
Section 10 – Provision C.10 Trash Load Reduction	10-1
Section 11 – Provision C.11 Mercury Controls	11-1
Section 12 – Provision C.12 PCBs Controls	12-1
Section 13 – Provision C.13 Copper Controls	13-1
Section 14 – Provision C.14 PBDE, Legacy Pesticides and Selenium Controls	14-1
Section 15 – Provision C.15 Exempted and Conditionally Exempted Discharges	15-1

Section 1 – Permittee Information

Background Information					
Permittee Name:	City of Pittsburg				
Population:	65,900				
NPDES Permit No.:	CAS612008 (San Francisco Bay Permit)				
Order Number:	R2-2009-0074 (San Francisco Bay Permit)				
Reporting Time Period (month/year):	July 1, 2009 through June 30, 2010				
Name of the Responsible Authority:	Keith Halvorson			Title:	Assistant City Engineer
Mailing Address:	65 Civic Avenue				
City:	Pittsburg	Zip Code:	94565	County:	Contra Costa
Telephone Number:	(925) 252-4930		Fax Number:	(925) 252-6928	
E-mail Address:	khalvorson@ci.pittsburg.ca.us				
Name of the Designated Stormwater Management Program Contact (if different from above):	Jolan Longway		Title:	Civil Engineer II	
Department:	Development Services				
Mailing Address:	65 Civic Avenue				
City:	Pittsburg	Zip Code:	94565	County:	Contra Costa
Telephone Number:	(925) 252-4803		Fax Number:	(925) 252-6928	
E-mail Address:	jlongway@ci.pittsburg.ca.us				

Section 2 - Provision C.2 Reporting Municipal Operations

Program Highlights and Evaluation

Highlight/summarize activities for reporting year:

Summary: (See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of activities conducted countywide and regionally on our behalf.)

C.2.a. ► Street and Road Repair and Maintenance

Place an **X** in the boxes next to implemented BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type **NA** in the box. If one or more of these BMPs were not adequately implemented during the reporting fiscal year then indicate so and provide explanation in the comments section below:

X	Control of debris and waste materials during road and parking lot installation, repaving or repair maintenance activities from polluting stormwater
X	Control of concrete slurry and wastewater, asphalt, pavement cutting, and other street and road maintenance materials and wastewater from discharging to storm drains from work sites
X	Sweeping and/or vacuuming and other dry methods to remove debris, concrete, or sediment residues from work sites upon completion of work

Comments:

C.2.b. ► Sidewalk/Plaza Maintenance and Pavement Washing

Place an **X** in the boxes next to implemented BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type **NA** in the box. If one or more of these BMPs were not adequately implemented during the reporting fiscal year then indicate so and explain in the comments section below:

X	Control of wash water from pavement washing, mobile cleaning, pressure wash operations at parking lots, garages, trash areas, gas station fueling areas, and sidewalk and plaza cleaning activities from polluting stormwater
N/A	Implementation of the BASMAA Mobile Surface Cleaner Program BMPs

Comments:

C.2.c. ► Bridge and Structure Maintenance and Graffiti Removal

Place an **X** in the boxes next to implemented BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type **NA** in the box. If one or more of these BMPs were not adequately implemented during the reporting fiscal year then indicate so and explain in the comments section below:

N/A	Control of discharges from bridge and structural maintenance activities directly over water or into storm drains
X	Control of discharges from graffiti removal activities
X	Proper disposal for wastes generated from bridge and structure maintenance and graffiti removal activities
N/A	Implementation of the BASMAA Mobile Surface Cleaner Program BMPs for graffiti removal

Comments:

C.2.d. ► Stormwater Pump Stations

Does your municipality own stormwater pump stations: ☒ **X** **Yes** ☐ **No**

If your answer is **No** then skip to **C.2.e.**

(For FY 10-11 Annual Report only) Complete the following table for dry weather DO monitoring and inspection data for pump stations¹ (add more rows for additional pump stations):

Pump Station Name and Location	First inspection Dry Weather DO Data		Second inspection Dry Weather DO Data	
	Date	mg/L	Date	mg/L

(For FY 10-11 Annual Report only) Summarize corrective actions as needed for DO monitoring at or below 3 mg/L. Attach inspection records of additional DO monitoring for corrective actions:

Summary:

¹ Pump stations that pump stormwater into stormwater collection systems or infiltrate into a dry creek immediately downstream are exempt from DO monitoring.

Attachments:						
(For FY 10-11 Annual Report only) Complete the following table for wet weather inspection data for pump stations (add more rows for additional pump stations):						
Pump Station Name and Location	Date (2x/year required)	Presence of Trash (Cubic Yards)	Presence of Odor (Yes or No)	Presence of Color (Yes or No)	Presence of Turbidity (Yes or No)	Presence of Floating Hydrocarbons (Yes or No)

C.2.e. ► Rural Public Works Construction and Maintenance			
Does your municipality own/maintain rural ² roads:		<input type="checkbox"/>	Yes
		<input checked="" type="checkbox"/>	No
If your answer is No then skip to C.2.f.			
Place an X in the boxes next to implemented BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type NA in the box. If one or more of the BMPs were not adequately implemented during the reporting fiscal year then indicate so and explain in the comments section below:			
<input type="checkbox"/>	Control of road-related erosion and sediment transport from road design, construction, maintenance, and repairs in rural areas		
<input type="checkbox"/>	Identification and prioritization of rural road maintenance based on soil erosion potential, slope steepness, and stream habitat resources		
<input type="checkbox"/>	No impact to creek functions including migratory fish passage during construction of roads and culverts		
<input type="checkbox"/>	Inspection of rural roads for structural integrity and prevention of impact on water quality		
<input type="checkbox"/>	Maintenance of rural roads adjacent to streams and riparian habitat to reduce erosion, replace damaging shotgun culverts and excessive erosion		
<input type="checkbox"/>	Re-grading of unpaved rural roads to slope outward where consistent with road engineering safety standards, and installation of water bars as appropriate		
<input type="checkbox"/>	Inclusion of measures to reduce erosion, provide fish passage, and maintain natural stream geomorphology when replacing culverts or design of new culverts or bridge crossings		
Comments including listing increased maintenance in priority areas:			

² Rural means any watershed or portion thereof that is developed with large lot home-sites, such as one acre or larger, or with primarily agricultural, grazing or open space uses.

C.2.f. ► Corporation Yard BMP Implementation

Place an **X** in the boxes below that apply to your corporation yard(s):

<input type="checkbox"/>	We do not have a corporation yard
<input checked="" type="checkbox"/>	Our corporation yard is a filed NOI facility and regulated by the California State Industrial Stormwater NPDES General Permit
<input type="checkbox"/>	We certify that we have a current Stormwater Pollution Prevention Plan (SWPPP) for the Corporation Yard(s)

Place an **X** in the boxes below next to implemented SWPPP BMPs to indicate that these BMPs were implemented in applicable instances. If not applicable, type **NA** in the box. If one or more of the BMPs were not adequately implemented during the reporting fiscal year then indicate so and explain in the comments section below:

<input checked="" type="checkbox"/>	Control of pollutant discharges to storm drains such as wash waters from cleaning vehicles and equipment
<input checked="" type="checkbox"/>	Routine inspection prior to the rainy seasons of corporation yard(s) to ensure non-stormwater discharges have not entered the storm drain system
<input checked="" type="checkbox"/>	Containment of all vehicle and equipment wash areas through plumbing to sanitary or another collection method
<input checked="" type="checkbox"/>	Use of dry cleanup methods when cleaning debris and spills from corporation yard(s) or collection of all wash water and disposing of wash water to sanitary or other location where it does not impact surface or groundwater when wet cleanup methods are used
<input checked="" type="checkbox"/>	Cover and/or berm outdoor storage areas containing waste pollutants

Comments:

If you have a corporation yard(s) that is not an NOI facility, complete the following table for inspection results for your corporation yard(s) or attach a summary including the following information:

Corporation Yard Name	Inspection Date (1x/year required)	Inspection Findings/Results	Follow-up Actions

Section 3 - Provision C.3 Reporting New Development and Redevelopment

**C.3.a. ► New Development and Redevelopment Performance
Standard Implementation Summary Report**

(For FY 10-11 Annual Report only) Provide a brief summary of the methods of implementation of Provisions C.3.a.i.(1)-(8).

Summary:

City Planning and Engineering Staff brief development applicants of our stormwater requirements at the onset of the Planning process of all projects. Applications are not deemed complete unless a stormwater control plan or calculation is submitted with their Planning Application. C.3 conditions of approval are also reiterated within the applicant's entitlements. In addition, when our yearly Capital Improvement project list is finalized, Engineering staff review the project list for projects, which would be subject to C.3 compliance and include those improvements in design contracts.

C.3.b. ► Green Streets Status Report

(All projects to be completed by December 1, 2014)

On an annual basis (if applicable), report on the status of any pilot green street projects within your jurisdiction. For each completed project, report the capital costs, operation and maintenance costs, legal and procedural arrangements in place to address operation and maintenance and its associated costs, and the sustainable landscape measures incorporated in the project including, if relevant, the score from the Bay-Friendly Landscape Scorecard.

Summary:

C.3.b.v.(1) ► Regulated Projects Reporting Table

Fill in attached table **C.3.b.v.(1)** or attach your own table including the same information

C.3.h.iv. ► Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

(1) Fill in attached table **C.3.h.iv.(1)** or attach your own table including the same information

(2) On an annual basis, provide a discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or HM controls. This discussion should include a general comparison to the inspection findings from the previous year.

Summary: The type of vegetation selected for the filtration planters have generally been shown to be very hearty, and require very little maintenance. Items which have been problematic are the ground cover. The majority of the bioretention facilities used bark as the basic ground cover, and although these facilities oftentimes were sloped to be shielded from direct wind exposure, the layer of bark has usually dissipated. One area in particular replaced the ground cover with "Gorilla Hair" type bark, and over the course of one year, the cover was still sparse in many areas, causing the planter areas to look disheveled. The treatment areas that used sod still fared the best; as they are easily maintained. More attention should be given to the general layout of these large treatment planters, as access to the inlets are often in the center of the facility, or the facility separates pedestrian paths of travel, thereby the facilities experience some foot traffic.

(3) On an annual basis, provide a discussion of the effectiveness of the O&M Program and any proposed changes to improve the O&M Program (e.g., changes in prioritization plan or frequency of O&M inspections, other changes to improve effectiveness program).

Summary: Our current Operations and Maintenance Program could be improved by creating a systematic tracking database to "schedule" sites that are due for inspections, and track compliance by requiring property owners that maintain these treatment facilities to obtain a yearly permit from the City to show yearly compliance. Our permitting software database has recently been expanded to allow for this, and we will begin using this method in the 2010/2011 Fiscal Year.

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 1) – Projects Approved During the Fiscal Year Reporting Period										
Project Name Project No.	Project Location ³ , Street Address	Name of Developer	Project Phase No. ⁴	Project Type & Description ⁵	Project Watershed ⁶	Total Site Area (Acres)	Total Area of Land Disturbed (Acres)	Total New and/or Replaced Impervious Surface Area ⁷ (ft²)	Total Pre- Project Impervious Surface Area ⁸ (ft²)	Total Post- Project Impervious Surface Area ⁹ (ft²)
Private Projects										
La Almenara	1065 Beacon Street, at the corner of 10 th Street	Meridian Modular		Redevelopment – 22 multi-family modular residential units	New York Slough					
Fire Prevention Bureau		Contra Costa County Fire protection District		New Development – one-story 6,000 sf building	Kirker Creek	1.91	1	43,000	0	43,000
Public Projects										
Old Town Plaza	West Side of Railroad Avenue	City of Pittsburg		Redevelopment – 15, 000 SF	New York Slough	0.6	0.6	15,731	22,216	15,731
	Between West Fifth and Sixth Streets.			Plaza and stage						

³ Include cross streets.

⁴ If a project is being constructed in phases, use a separate row entry for each phase.

⁵ Project Type is the type of development (i.e., new and/or redevelopment). Example descriptions of development are: 5-story office building, residential with 160 single-family homes with five 4-story buildings to contain 200 condominiums, 100 unit 2-story shopping mall, mixed use retail and residential development (apartments), industrial warehouse.

⁶ State the watershed(s) that the Regulated Project drains to. Optional but recommended: Also state the downstream watershed(s).

⁷ State both the total new impervious surface area and the total replaced impervious surface area, as applicable.

⁸ For redevelopment projects, state the pre-project impervious surface area.

⁹ For redevelopment projects, state the post-project impervious surface area.

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Status of Project ¹⁰	Source Control Measures ¹¹	Site Design Measures ¹²	Treatment Systems Approved ¹³	Operation & Maintenance Responsibility Mechanism ¹⁴	Hydraulic Sizing Criteria ¹⁵	Alternative Compliance Measures ^{16/17}	Alternative Certification ¹⁸	HM Controls ^{19/20}
Private Projects									
La Almenara	Application submittal date: March 2010	Storm drain stenciling, appropriate trash enclosures, & efficient landscaping	Minimize impervious surface	Bioretention Facility		2c			N/A project creates less than one acre of impervious surface
	Application deemed complete date: April 2010								
	Final discretionary approval date: July 2010								
Fire Prevention Bureau	Application	Storm drain		Bioretention					

¹⁰ For private projects, state project application submittal date; application deemed complete date; and, final discretionary approval date. For public projects, state plans and specifications approval date.

¹¹ List source control measures approved for the project. Examples include: properly designed trash storage areas; storm drain stenciling or signage; efficient landscape irrigation systems; etc.

¹² List site design measures approved for the project. Examples include: minimize impervious surfaces; conserve natural areas, including existing trees or other vegetation, and soils; construct sidewalks, walkways, and/or patios with permeable surfaces, etc.

¹³ List all approved stormwater treatment system(s) to be installed onsite or at a joint stormwater treatment facility (e.g., flow through planter, bioretention facility, infiltration basin, etc.).

¹⁴ List the legal mechanism(s) (e.g., O&M agreement with private landowner; O&M agreement with homeowners' association; O&M by public entity, etc...) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.

¹⁵ See Provision C.3.d. "Numeric Sizing Criteria for Stormwater Treatment Systems" for list of hydraulic sizing design criteria (i.e., 1.a., 1.b., 2.a., 2.b., 2.c., or 3)

¹⁶ For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.

¹⁷ For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.

¹⁸ Note whether a third party was used to certify the project design complies with Provision C.3.d.

¹⁹ If HM control is not required, state why not.

²⁰ If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), bioretention unit(s), regional detention basin, or in-stream control).

C.3.b.v.(1) ► Regulated Projects Reporting Table (part 2) – Projects Approved During the Fiscal Year Reporting Period

Project Name Project No.	Status of Project ¹⁰	Source Control Measures ¹¹	Site Design Measures ¹²	Treatment Systems Approved ¹³	Operation & Maintenance Responsibility Mechanism ¹⁴	Hydraulic Sizing Criteria ¹⁵	Alternative Compliance Measures ^{16/17}	Alternative Certification ¹⁸	HM Controls ^{19/20}
(this project has become a Public Project)	Submittal: October 2009	stenciling, appropriate trash enclosures, & efficient landscaping		Facility					
Public Projects									
Fire prevention Bureau	Plans & Specs Approval Date: July 2010		Minimize impervious surface.	Infiltration Planters	O&M Agreement with Landowner	2c			Project design provides for HM control per requirements set forth in the Contra Costa's C.3 Design Guidebook, 4 th Edition, and includes the use of infiltration planters and in stream controls.
Old Town Plaza	Plans & Specs Approval Date: November 2009	Efficient landscaping, appropriate trash containment	Permeable surface areas incorporated into design, and landscaping	Infiltration Planters	O&M by City of Pittsburgh	2c			n/a project is less than 1 acre of impervious surface

C.3.h.iv. ► Installed Stormwater Treatment Systems Operation and Maintenance Verification Inspection Program Reporting

Fill in table below or attach your own table including the same information.							
Facility/Site Inspected and Location	Party Responsible ²¹ For Maintenance	Date of Inspection	Type of Inspection ²²	Type of Treatment/HM Control(s) Inspected ²³	Inspection Findings or Results ²⁴	Enforcement Action Taken ²⁵	Comments
Stanford Place II	Homeowner's Association	February 2010	Annual	Bioretention Facilities	Proper O&M		
Faith Worship Center	Property owner	June 2010	Annual	Bioretention Facilities	Proper O&M		
Vidrio Block B	City of Pittsburgh	May 2010	Follow up	Underground filtration boxes	Proper installation		
Civic Center Parking Lot	City of Pittsburgh	May 2010	Annual	Flow through planters	Proper O&M		

²¹ State the responsible operator for installed stormwater treatment systems and HM controls.

²² State the type of inspection (e.g., annual, follow-up, spot, etc.).

²³ State the type(s) of treatment systems inspected (e.g., bioretention facility, flow-through planter, infiltration basin, etc...) and the type(s) of HM controls inspected, and indicate whether the treatment system is an onsite, joint, or offsite system.

²⁴ State the inspection findings or results (e.g., proper installation, improper installation, proper O&M, immediate maintenance needed, etc.).

²⁵ State the enforcement action(s) taken, if any, as appropriate and consistent with your municipality's Enforcement Response Plan.

Section 4 – Provision C.4 Industrial and Commercial Site Controls

C.4.a.ii ► Legal Authority

(For FY 09-10 Annual Report only) Do you have adequate legal authority to obtain effective stormwater pollutant control on industrial sites?

☒ **X** **Yes** ☐ **No**

If **No**, explain:

C.4.c.ii.(5) ► Enforcement Response Plan

(For FY 09-10 Annual Report only) Have you developed and implemented an Enforcement Response Plan by April 1, 2010?

☒ **X** **Yes** ☐ **No**

If **No**, explain:

Program Highlights

Provide background information, highlights, trends, etc. For FY 09-10 Annual Report, describe steps taken to revise your program to meet new data tracking and reporting requirements.

(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of highlights and activities conducted countywide and regionally on our behalf.)

C.4.b.i. ► Business Inspection Plan

(For FY 09-10 Annual Report only) Do you have a Business Inspection Plan?

☒ **X** **Yes** ☐ **No**

If **No**, explain:

C.4.b.iii.(1) ► Potential Facilities List

List below or attach your list of industrial and commercial facilities in your Inspection Plan to inspect that could reasonably be considered to cause or contribute to pollution of stormwater runoff.

See attachment.

C.4.b.iii.(2) ► Facilities Scheduled for Inspection

List below or attach your list of facilities scheduled for inspection during the current fiscal year.

See attachment.

C.4.c.iii.(1) ► Facility Inspections

Fill out the following table or attach a summary of the following information.

	Number	Percent
Number of businesses inspected (if known)	28	18 %
Total number of inspections conducted	28	18%
Violations issued (excluding verbal warnings)	1	1
Sites inspected in violation	1	
Violations ¹ resolved within 10 working days or otherwise deemed resolved in a longer but still timely manner	1	

¹ Total number of violations equals the number of initial enforcement actions (i.e., one violation issued for several problems during an inspection at a site). It does not equal the total number of enforcement actions because one violation issued at a site may have a second enforcement action for the same violation at the next inspection if it is not corrected.

C.4.c.iii.(2) ► Frequency and Types/Categories of Violations Observed

Fill out the following table or attach a summary of the following information.

Type/Category of Violations Observed	Number of Violations
Actual discharge (e.g. non-stormwater discharge)	1
Potential discharge (e.g. BMPs not in place or ineffective)	1

C.4.c.iii.(2) ► Frequency and Type of Enforcement Conducted

Fill out the following table or attach a summary of the following information.

	Enforcement Action (as listed in ERP) ¹	Number of Enforcement Actions Taken	% of Enforcement Actions Taken²
Level 1	Notice of Violation	1	1
Level 2			
Level 3			
Level 4			
Total			

Notes:

¹ Agencies to list specific enforcement actions as defined in their ERPs.

² Percentage calculated as number of each type of enforcement action divided by the total number of enforcement actions.

C.4.c.iii.(3) ► Types of Violations Noted by Business Category

Fill out the following table or attach a summary of the following information.

Business Category¹	Actual Discharge Violations	Potential Discharge Violations
Commercial	Rinse water from a swimming pool chemical manufacturing company was discharged onto the public right of way, and was also illegally connected into the storm drain system.	

Notes:

¹ List your Program's standard business categories.

C.4.c.iii.(4) ► Non-Filers

List below or attach a list of the facilities required to have coverage under the Industrial General Permit but have not filed for coverage:

C.4.d.iii ► Staff Training Summary

Training Name	Training Dates	Topics Covered	No. of Inspectors in Attendance	Percent of Inspectors in Attendance
NACWA Annual Pretreatment and Pollution Prevention Workshop	5/19-20/10	Program management, update to laws and regulations, investigating illicit discharges/sources; stormwater BMPs	1	33%
CWEA P3S Conference	3/1-3/10	General inspector training, update to laws and regulations, stormwater BMPs	1	33%

C.5.a.ii ► Legal Authority

(For FY 09-10 Annual Report only) Do you have adequate legal authority to prohibit and control illicit discharges and escalate stricter enforcement to achieve expedient compliance?

☒ **X** **Yes** ☐ **No**

If **No**, explain:

Section 5 – Provision C.5 Illicit Discharge Detection and Elimination

C.5.b.ii.(4) ► Enforcement Response Plan

(For FY 09-10 Annual Report only) Have you developed and implemented an Enforcement Response Plan by April 1, 2010? ☒ **X** **Yes** ☐ **No**

If **No**, explain:

Program Highlights

Provide background information, highlights, trends, etc. For FY 09-10 Annual Report, describe steps taken to revise your program to meet new data tracking and reporting requirements.

(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of highlights and activities conducted countywide and regionally on our behalf.)

C.5.c.iii ► Complaint and Spill Response Phone Number and Spill Contact List

List below or attach your complaint and spill response phone number and spill contact list.

Contact	Description	Phone Number
See attachment		

C.5.d.iii ► Evaluation of Mobile Business Program

Describe implementation of minimum standards and BMPs for mobile businesses and your enforcement strategy. This may include participation in the BASMAA Mobile Surface Cleaners regional program or local activities.

Description: The City Planning Staff regularly inspect the current holders of City of Pittsburg business licenses to ensure that the applicants are in compliance of their use permits and that the business is in compliant with the City Municipal Code. This strategy has been effective at monitoring and abating the mobile businesses that are based in Pittsburg. In addition, staff educates applicants of businesses that may require surface maintenance of their facility, such as parking structures, plazas, etc, that surface cleaning shall be done in accordance with BASMAA standards, and seek the services of BASMAA approved Mobile Surface Cleaners.

C.5.e.iii ► Evaluation of Collection System Screening Program

Provide a summary or attach a summary of your collection screening program, a summary of problems found during collection system screening and any changes to the screening program this FY.

Description: Currently maintenance of our City storm drainage facilities are prioritized according to the most historically problematic areas of the City. These areas are divided into "Zones" with the most problematic areas receiving more frequent maintenance. Inspection and maintenance activities are tracked by means of a work order database maintained by the Public Works Department. The Contra Costa Clean Water Program has recently developed a Storm System Screening Form, which we will incorporate into our inspection activities.

C.5.f.iii.(1), (2), (3) ► Spill and Discharge Complaint Tracking

Spill and Discharge Complaint Tracking (fill out the following table or include an attachment of the following information)

	Number	Percentage
Discharges reported (C.5.f.iii.(1))	14	100%
Discharges reaching storm drains and/or receiving waters (C.5.f.iii.(2))	2	14%
Discharges resolved in a timely manner (C.5.f.iii.(3))	14	100%

C.5.f.iii.(4) ► Summary of major types of discharges and complaints

Provide a narrative or attach a table and/or graph.

The majority of the types of discharges reported was made by City staff, and was usually found to be cleaning solutions resulting from businesses that were careless with their surface cleaning methods or were uneducated about the prohibited discharge of cleaning products into the street and gutter, particularly biodegradable products.

Section 6 – Provision C.6 Construction Site Controls

C.6.a.iii ► Legal Authority

(For FY 09-10 Annual Report only) Is your agency's legal authority adequate for C.6 compliance? ☒ **X** **Yes** ☐ **No**

If **No**, explain:

C.6.b.ii.(3) ► Enforcement Response Plan

(For FY 09-10 Annual Report only) Was your Enforcement Response Plan developed and implemented by April 1, 2010? ☒ **X** **Yes** ☐ **No**

If **No**, explain:

C.6.e.iii.1.a, b, c ► Site/Inspection Totals

Number of sites disturbing < 1 acre of soil requiring storm water runoff quality inspection (i.e. High Priority) (C.6.e.iii.1.a)	Number of sites disturbing ≥ 1 acre of soil (C.6.e.iii.1.b)	Total number of storm water runoff quality inspections conducted (C.6.e.iii.1.c)
3	7	62

C.6.e.iii.1.d ► Construction Activities Storm Water Violations		
BMP Category	Number of Violations¹	% of Total Violations²
Erosion Control		
Run-on and Run-off Control	2	33%
Sediment Control	2	33%
Active Treatment Systems		
Good Site Management	2	33%
Non Stormwater Management		
Total		100%

Notes:

¹Count one violation in a category for each site and inspection regardless of how many violations/problems occurred in the BMP category.

²Percentage calculated as number of violations in each category divided by total number of violations in all six categories.

C.6.e.iii.1.e ► Construction related storm water enforcement actions			
	Enforcement Action (as listed in ERP)¹	Number Enforcement Actions Taken	% Enforcement Actions Taken²
Level 1	Notice of Correction	2	1%
Level 2			
Level 3			
Level 4			
Total			100%

Notes:

¹Agencies should list the specific enforcement actions as defined in their ERPs.

²Percentage calculated as number of each type of enforcement action divided by the total number of enforcement actions.

C.6.e.iii.1.f, g ► Illicit Discharges

	Number
Number of illicit discharges, actual and those inferred through evidence (C.6.e.iii.1.f)	
Number of sites with discharges, actual and those inferred through evidence (C.6.e.iii.1.g)	

C.6.e.iii.1.h, i ► Violation Correction Times

	Number	Percent
Violations fully corrected within 10 business days after violations are discovered or otherwise considered corrected in a timely period (C.6.e.iii.1.h)	6	100% ²
Violations not fully corrected within 30 days after violations are discovered (C.6.e.iii.1.i)		% ³
Total number of violations for the reporting year¹		100%

Notes:

¹Total number of violations equals the number of initial enforcement actions (i.e., one violation issued for several problems during an inspection at a site). It does not equal the total number of enforcement actions because one violation issued at a site may have a second enforcement action for the same violation at the next inspection if it is not corrected.

²Calculated as number of violations fully corrected in a timely period after the violations are discovered divided by the total number of violations for the reporting year.

³Calculated as number of violations not fully corrected within 30 days after the violations are discovered divided by the total number of violations for the reporting year.

C.6.e.iii.(2) ► Evaluation of Inspection Data

Describe your evaluation of the tracking data and data summaries and provide information on the evaluation results (e.g., data trends, typical BMP performance issues, comparisons to previous years, etc.).

Description: The current method by which City staff report BMP performance is by means of the Rainy Season Inspection form, which is mainly a checklist. If the site is compliant, the only record of the BMP is the inspection report. For sites or projects for which specific non-compliance was observed, a Notice of Correction was issued, summarizing the items needing correction and indicating the time frame in which to complete the correction. The notices of correction and inspection reports are kept by means of Municipal Unified Functional Filing System both in electronic and hard copy format.

C.6.e.iii.(2) ► Evaluation of Inspection Program Effectiveness

Describe what appear to be your program's strengths and weaknesses, and identify needed improvements, including education and outreach.

Description: Our program's strength is that our inspectors are more aware of proper construction site BMPs and are proactive at identifying potential violations before they occur, and advise their contractors accordingly. In addition, site BMP maintenance is a standard requirement built into our standard City contract specifications, and oftentimes are a separate bid item, so BMP non-compliance can mean non- payment to the contractor. For private development projects, BMP non-compliance results in "Stop Work" notifications.

The weakness in our program has been in the application of enforcement, which has not always been documented. Oftentimes the project managers or inspectors will rather have face to face discussions with the contractors or field personnel to resolve site issues, but no documentation. We intend to hold regular training with our staff on how to implement the guidelines set forth in our Model Enforcement Plan, and also to formalize a central point of contact for submitting all documentation relating to corrective actions and maintaining a database of specific types of Construction Activity Storm Water Violations. Also more effort has to be made to ensure that the site inspection reports are completed regularly for non-rain event days during the rainy season, and continue to educate contractors on proper site BMPs even when the site is inactive for a period of time.

C.6.f ► Staff Training Summary

Training Name	Training Dates	Topics Covered	No. of Inspectors in Attendance	Percent of Inspectors in Attendance
Contra Costa Construction Stormwater Management Compliance Workshop	March 18, 2010	1. Municipal Regional Permit – What You Need to Know 2. Understanding the New State General Construction Permit 3. Regional Board Construction Inspection Program 4. SWPPPs, State and Municipal Requirements, Compliance 5. Sediment, Erosion Control and Construction Site Pollution Prevention 6. Design & Construction of Post-Construction Low Impact Development Stormwater Facilities – Lessons Learned	6	71%

Section 7 – Provision C.7. Public Information and Outreach

C.7.b.ii.1 ► Advertising Campaign

Summarize advertising efforts. Include details such as messages, creative developed, and outreach media used. The detailed advertising report may be included as an attachment. If advertising is being done by participation in a countywide or regional program, refer to the separate countywide or regional Annual Report.

Summary: The City participates in the regional campaign on a local level. The City created bookmarks from the flyers and magnets to distribute at the library where a display with the campaign was posted in February and part of March 2010.

(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of advertising efforts conducted countywide and regionally on our behalf.)

C.7.b.iii.1 ► Pre-Campaign Survey

(For the FY 10-11 Annual Report only) Summarize survey information such as sample size, type of survey (telephone survey, interviews, etc.). Attach a survey report that includes the following information. If survey was done regionally, refer to a regional submittal that contains the following information:

- Summary of how the survey was implemented.
- Analysis of the survey results.
- Discussion of the outreach strategies based on the survey results.
- Discussion of planned or future advertising campaigns to influence awareness and behavior changes regarding trash/litter and pesticides.

Place an **X** in the appropriate box below:

<input checked="checked" type="checkbox"/>	Survey report attached
<input type="checkbox"/>	Reference to regional submittal:

C.7.c ► Media Relations

Summarize the media relations effort. Include the following details for each media pitch in the space below, AND/OR refer to a regional report that includes these details:

- Topic and content of pitch
- Medium (TV, radio, print, online)
- Date of publication/broadcast

Summary: The City of Pittsburg along with the City of Antioch and the Clean Water Program participated in a special advertising campaign for Mr. Funnelhead to east county residents. The Clean Water Program's Mr. Funnelhead Coordinator arranged for a special campaign through Comcast to air the Mr. Funnelhead commercial in April and May. Attached is the schedule run for April/May. In addition, we advertised on Comcast.net. A Funnelhead static add popped-up on Comcast.net in the right top of the screen every time someone logs in for email or browsing.

The City also participated in a program with the County to promote recycling motor oil. These ads were placed on the local Tri-Delta bus system. This program always is extended beyond these paid subscription time since the bus system leaves some of the posters on for many months.

(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of media relation efforts conducted countywide and regionally on our behalf.)

C.7.d ► Stormwater Point of Contact

(For FY 09-10 Annual Report only, unless changes made) Provide details of website or phone number used as the point of contact. Report on how the point of contact is publicized and maintained. If any change occurs in this contact, report in a subsequent Annual Report.

Contact Summary: (See the Fiscal Year 2009 – 2010 Group Program Annual Report for a discussion on BASMAA and the Program's development and communication of Stormwater Point of Contacts.)

C.7.e ► Public Outreach Events

Describe general approach to event selection. Provide a list of outreach materials and giveaways distributed.
Use the following table for reporting and evaluating public outreach events.

Event Details	Description (messages, audience)	Evaluation of Effectiveness
Provide event name, date, and location. Indicate if event is local, countywide or regional.	Identify type of event (e.g., school fair, farmers market etc.), type of audience (school children, gardeners, homeowners etc.) and outreach messages (e.g., Enviroscape presentation, pesticides, stormwater awareness)	Provide general staff feedback on the event (e.g., success at reaching a broad spectrum of the community, well attended, good opportunity to talk to gardeners, etc.). Provide other details such as: <ul style="list-style-type: none"> • Estimated overall attendance at the event • Number of people that visited the booth, comparison with previous years • Number of brochures and giveaways distributed • Results of any spot surveys conducted
"Kids Creek Fest" held at Fernandez Park in the City of Pinole on May 8, 2010. Though local, this event was funded by all municipalities.	See the FY 2009 – 2010 Group Program Annual Report for details on this public outreach event.	See the FY 2009 – 2010 Group Program Annual Report for a detailed evaluation on the effectiveness of this public outreach event.
Local (&countywide): The City of Pittsburg sponsored the Bringing Back the Natives Garden Tour at the \$1,000 level. The Tour took place on Saturday and Sunday, May 2 and 3, 2010. The Tour showcases 50 gardens in Alameda and Contra Costa counties.	See the FY 2009 – 2010 Group Program Annual Report for details on this public outreach event.	See the FY 2009 – 2010 Group Program Annual Report for a detailed evaluation on the effectiveness of this public outreach event.

<p>Local: The City of Pittsburg hosted a new festival event; "Green Footprint Festival". The event took place on June 17, 2010, at the City's children's park (Small World Park), the day after school was finished. It hosted the "green" theme with information from solar to composting to recycling and litter reduction.</p>	<p>The Bringing Back the Natives Garden Tour showcases 50 pesticide-free, water-conserving gardens in Alameda and Contra Costa Counties. This free Tour attracts homeowners, gardeners, and landscape designers.</p> <p>Messages are:</p> <ul style="list-style-type: none"> * incorporate natives into their gardens (thereby reducing herbicide use and conserving water) * encourage wildlife with plant choices * group plants by water needs * incorporate drought-resistant plants into their gardens * increase the density of plantings to out-compete weeds (reducing herbicide use and conserving water) * mulching to conserve water * reduce pesticide use * tolerate some insect damage * install efficient irrigation * amend their soil to conserve water and improve plant health * reduce the size of their lawn to reduce pesticide and water use * compost * reduce the amount of hardscape in their gardens. * grasscycle 	<p>Behavior Change Results in Repeat and First-Time Registrants:</p> <p>Behavior Change</p> <p>81% of repeat registrants said they had changed their gardening practices because of their participation in the Tour.</p> <p>21% of respondents had incorporated natives into their gardens (thereby reducing herbicide use and conserving water)</p> <p>13% were encouraging wildlife with plant choices</p> <p>17% had grouped plants by water needs and incorporated drought-resistant plants into their gardens</p> <p>12% had increased the density of plantings to out-compete weeds (reducing herbicide use and conserving water)</p> <p>7% had begun mulching</p> <p>9% had reduced pesticide use</p> <p>9% were tolerating some insect damage</p> <p>7% had installed efficient irrigation</p> <p>5% had amended their soil</p> <p>6% had reduced the size of their lawn</p> <p>5% were composting</p> <p>3% had reduced the amount of hardscape in their gardens.</p> <p>3% were grasscycling</p> <p>Repeat visitors were highly motivated to make changes in their gardens. When asked what they planned to do:</p> <p>39% planned to increase the density of plantings to out-compete weeds</p> <p>33% to group plants of similar water needs</p> <p>23% to install efficient irrigation</p> <p>25% to encourage wildlife</p> <p>22% to reduce the size of their lawn</p>
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		<p>19% to incorporate native plants into their gardens 19% to mulch 16% to amend their soil with compost 16% to minimize hardscapes 15% to compost 10% to tolerate some insect damage to plants 10% to grasscycle 6% to reduce or eliminate pesticide use</p> <p>First-time registrants The tour was highly motivating to first time registrants. 52% responded that they planned to increase the density of plants, thus helping to outcompete weeds and reduce water use 52% planned to group plants by water needs 50% planned to incorporate native plants into their gardens 45% planned to incorporate drought-resistant plants into their gardens 44% planned to encourage wildlife 34% to reduce the size of their lawns 31% to install efficient irrigation 27% planned to mulch 23% to compost and to amend their soils 23% planned to tolerate some plant damage 18% planned to reduce or eliminate pesticide use 16% planned to reduce the amount of hardscape in their gardens</p>
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Local: The GREAT Pittsburg Cleanup. This creek clean up is hosted each year in the Spring in conjunction with the national and statewide Keep America and California Clean program which runs March through May.	The festival was for families. The park is a closed park and families do pay an entrance fee which was discounted for the festival. The event hosted a variety of vendors which were asked to have a kid friendly activity. The City's booth supported watershed activities with a prize wheel asking questions about composting and stormwater. East Bay Regional Parks had information about composting and native plants. There were 17 vendors present.	The festival was a success. Over 435 people attended. Many were very engaged at the booths asking questions and learning
Local: Marina Clean Green Boating	This is a creek cleanup event. Students and adults from the community (schools and businesses) volunteer for a few hours to clean portions of the creek system. The event was promoted to church groups, businesses, via water bill inserts and the City's e-news and website.	This was the first time the clean up didn't yield a hundred volunteers. Usually it is very popular. The City received RSVPs for over a hundred but many did not show. Not sure why. We had 62 volunteers and they collected over 5 yards of trash and close to 2 yards of recyclables. The participants that were there were very enthusiastic and engaged. For a small group they brought back a sizable amount of material.
	The Marina continues to educate boaters about not spilling fuel and oil on the water. They provide spill pads and fuel donuts to prevent spills on the Delta.	The Marina hands out spill pads continually as well as has a facility to accept oil, oil filters and batteries from tenants. The Marina hands out Clean and Green boating bags as well as other materials after the individual signs a pledge card.

C.7.f. ► Watershed Stewardship Collaborative Efforts

Summarize watershed stewardship collaborative efforts and/or refer to a regional report that provides details. Describe the level of effort and support given (e.g., funding only, active participation etc.). State efforts undertaken and the results of these efforts. If this activity is done regionally refer to a regional report.

Evaluate effectiveness by describing the following:

- Efforts undertaken
- Major accomplishments

Summary: In addition to the regional and countywide efforts noted in the Clean Water Program's Annual Report, the City of Pittsburg did make a presentation at the CC Watershed Forum about the City's new partnership program the 'Delta Waters Education Tours.

The Partners for the Watershed is a group government, academic, and industry members that implement education and stewardship activities within the Kirker Creek Watershed. The Kirker Creek Watershed Management Plan, a community based document published in 2004, identifies a series of projects and programs that promote project-based watershed education and community stewardship activities within the watershed. Partners for the Watershed has been integral in the implementation of these activities.

The Delta Waters Education Program, a Partners for the Watershed project, was created when the owners of Delta Discovery Tours approached the City to partner on an education program for youth using their vessel and the Delta as a medium and classroom similar to a program they provided on the Great Salt Lake in Utah. The City presented the proposal to Partners for the Watershed (Partners), and the Partners, excited about the opportunity to provide a hands-on watershed program, created the platform as well as the curriculum for Delta Waters Education Tours.

The Delta Waters Education Tours is an opportunity to educate students on: the history of the Delta; the geography of the Delta within the California water system; what a watershed is; perform water quality testing; sample and inspect species and understand their role in the food chain; learn about native and non-native species and plants; and learn about the human impact on the environment (pollution, trash, etc). See attached outline. The uniqueness of this program is the ability to have the 3 hour classroom out on the Delta providing local students an opportunity to experience the Delta since many students have never seen or been to this body of water. The program is presently being created to meet 4th grade state curriculum guidelines and once the program is operating successfully, it is the Partners intentions to modify it for high school and college students. Additionally, it is the intent to use local high school and college students as assistants and mentors with the scientist at the various activity stations since it has been demonstrated that younger students enjoy working and learning from these individuals.

The vessel accommodates 70-80 people per trip. This intimate setting allows for additional time to talk with and work with students on the project and activities at the stations. Presently, the program only has funding for two-three trips on the Delta and is seeking additional sponsors and grant funds to provide this experience to more students.

Partners for the Watershed continues to meet monthly to coordinate the Delta Waters Education Tours as well as other clean up and education efforts.

(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a detailed report on BASMAA and the Program's encouragement and support of various Watershed Stewardship Collaborative efforts.)

C.7.g. ► Citizen Involvement Events

List the types of events conducted (e.g., creek clean up, storm drain inlet marking, native gardening etc.). Use the following table for reporting and evaluating citizen involvement events.

Event Details	Description	Evaluation of effectiveness
Provide event name, date, and location. Indicate if event is local, countywide or regional.	Describe activity (e.g., creek clean-up, storm drain marking, etc.).	Provide general staff feedback on the event. Provide other evaluation details such as: <ul style="list-style-type: none"> • Number of participants. Any change in participation from previous years. • Distance of creek or water body cleaned. • Quantity of trash/recyclables collected (weight or volume). • Number of inlets marked. • Data trends
We contributed to Citizen Monitoring conducted countywide. For details on all citizen monitoring events, locations, and dates, see the Contra Costa Monitoring and Assessment Program (CCMAP) report provided in the Fiscal Year 2009 -2010 Group Program Annual Report.	See Group Program Annual Report	See Group Program Annual Report
We helped fund "Kids Creek Fest" held at Fernandez Park in the City of Pinole on May 8, 2010. See the FY 2009 – 2010 Group Program Annual Report for details on this citizen involvement event.	See Group Program Annual Report	See Group Program Annual Report

FY 2009-2010 Annual Report
Permittee Name: City of Pittsburg

C.7 – Public Information and Outreach

Local: The GREAT Pittsburg Cleanup. This creek clean up is hosted each year in the Spring in conjunction with the national and statewide Keep America and California Clean program which runs March through May.	This is a creek cleanup event. Students and adults from the community (schools and businesses) volunteer for a few hours to clean portions of the creek system. The event was promoted to church groups, businesses, via water bill inserts and the City's e-news and website.	This was the first time the clean up didn't yield a hundred volunteers. Usually it is very popular. The City received RSVPs for over a hundred but many did not show. Not sure why. We had 62 volunteers and they collected over 5 yards of trash and close to 2 yards of recyclables. The participants that were there were very enthusiastic and engaged. For a small group they brought back a sizable amount of material.
Local: Watershed Monitoring – Los Medanos College Chem Lab Students	A professor at the local college has his Chem Lab students participate in local watershed events. One event in particular is the water quality monitoring with the County Watershed Coordinator – Michelle Luebke.	Each year they work on various projects required or needed in the local watershed. They will do standard test with equipment from the college (pH, turbidity, etc.) as well as the macroinvertebrate monitoring. The reports go to the county to be compiled into one report.
Local: Adopt-a-Spot Program	The City started the local Adopt-a-Spot program as a program for the Neighborhood Improvement Team. It is a beautification effort with a strong anti-litter component. See attached for program overview.	Presently the City has 2 active groups that clean up litter along the road linear parks (preventing litter from going into storm drains) and one in large active park. The groups clean up the areas weekly. In addition, there are 2 small youth groups that clean up litter in the marina area and along the east bay trail system. The City has 2 more groups interested in adopting spots.
Local: W. 10 th Street Cleanup	The City held a special clean up for residents in the W. 10 th neighborhood.	

C.7.h. ► School-Age Children Outreach

Summarize school-age children outreach programs implemented. A detailed report may be included as an attachment.
 Use the following table for reporting school-age children outreach efforts.

Program Details	Focus & Short Description	Number of Students/Teachers reached	Evaluation of Effectiveness
Provide the following information: Name Grade or level (elementary/ middle/ high)	Brief description, messages, methods of outreach used	Provide number of participants	Provide agency staff feedback. Report any other evaluation methods used (quiz, teacher feedback, etc.). Attach evaluation summary if applicable.
We supported "Kids for the Bay." See the FY 2009 – 2010 Group Program Annual Report for a detailed review of this outreach.	See Group Program Annual Report	See Group Program Annual Report	See Group Program Annual Report
We supported Mr. Funnelhead. For a detailed summary of all Mr. Funnelhead school assemblies, city/county fair events, and TV advertisements conducted countywide, please refer to the Fiscal Year 2009 – 2010 Group Program Annual Report.	See Group Program Annual Report	See Group Program Annual Report	See Group Program Annual Report
We support "Newspapers in Education." For a detailed description of this program for school-age children, see the FY 2009 – 2010 Group Program Annual Report.	See Group Program Annual Report	See Group Program Annual Report	See Group Program Annual Report

We helped fund "Kids Creek Fest" held at Fernandez Park in the City of Pinole on May 8, 2010. See the FY 2009 – 2010 Group Program Annual Report for details on this citizen involvement event.	See Group Program Annual Report	See Group Program Annual Report	See Group Program Annual Report
Delta Waters Education Tours	A special hand-on education experience on the Delta. See description in section C.7.f.	There was only enough funding for 3 voyages. A total of 122 third / fourth / fifth grade students participated along with 40 high school and college volunteers. Five teachers and 2 teach assistants and some parents were also on board.	A report spent the day on the voyage and featured the program on the front page of the Contra Costa Times. In addition, they did a video and the teacher was grateful for such a unique teaching experience that would last a lifetime for them. A copy of the workbook students completed on the voyage is attached.
Kids For the Bay	Classroom and hands-on activities for students to learn about the local Watershed.	Two teachers and 52 third grade students.	A full summary report is included as an attachment of the student activities, their reports and the teacher's evaluations.
Newspapers in Education	The City provides separate support for Newspapers' in Education to ensure all classrooms requesting the program can participate.	The program reached 15 classrooms – approx 480 students.	The Contra Costa Times receives feedback from teachers. The City didn't get any specific letters this year; however, the program give a great overview of solid waste, recycling storm water, sewer, etc and is comprehensive. Past feedback from teachers has been very positive.

Section 8 - Provision C.8 Water Quality Monitoring

C.8 ► Water Quality Monitoring

State below if information is reported in a separate regional report. Municipalities can also describe below any Water Quality Monitoring activities in which they participate directly, e.g. participation in RMP workgroups, fieldwork within their jurisdictions, etc.

Summary: (See the Fiscal Year 2009 – 2010 Group Program Annual Report for a detailed report on BASMAA and the Program's Water Quality Monitoring programs and activities.)

Section 9 – Provision C.9 Pesticides Toxicity Controls

C.9.a ► Adopt an Integrated Pest Management (IPM) Policy or Ordinance

(For FY 09-10 Annual Report only) Attach a copy of your individual IPM ordinance or policy.

☒

Attached

☐

Not attached, explain below

If **Not attached**, explain:

C.9.b ► Implement IPM Policy or Ordinance

Report implementation of IPM BMPs by showing trends in quantities and types of pesticides used, and suggest reasons for increases in use of pesticides that threaten water quality, specifically organophosphorous pesticides, pyrethroids, carbaryl, and fipronil. A separate report can be attached as evidence of your implementation.

Summary:

The City does not use pesticides, just herbicides. The City controls pocket gophers by means of mechanical traps.

C.9.c ► Train Municipal Employees

Enter the number of employees that applied or used pesticides (including herbicides) within the scope of their duties this reporting year.

7

Enter the number of these employees who received training on your IPM policy and IPM standard operating procedures within the last 3 years.

1

Enter the percentage of municipal employees who apply pesticides who have received training in the IPM policy and IPM standard operating procedures within the last three years.

14%

C.9.d ► Require Contractors to Implement IPM

Did your municipality contract with any pesticide service provider in the reporting year?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
If yes, attach one of the following:				
<input type="checkbox"/>	Contract specifications that require adherence to your IPM policy and standard operating procedures, OR			
<input type="checkbox"/>	Copy(ies) of the contractors' IPM certification(s) or equivalent, OR			
<input type="checkbox"/>	Equivalent documentation.			
If not attached, explain:				

C.9.e ► Track and Participate in Relevant Regulatory Processes

Summarize participation efforts, information submitted, and how regulatory actions were affected OR reference a regional report that summarizes regional participation efforts, information submitted, and how regulatory actions were affected.
<p>Summary: Staff attends 3 full- day Professional Association of Pesticide Applicators (PAPA) seminars, annually that serve to update participants on industry trends and regulatory changes.</p> <p><i>(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a detailed summary of all countywide and regional efforts conducted on our behalf to track and participate in relevant pesticide regulatory processes.)</i></p>

C.9.f ► Interface with County Agricultural Commissioners

Provide a summary of improper pesticide usage reported to County Agricultural Commissioners and follow-up actions to correct violations, if any. A separate report can be attached as your summary.
<p>Summary: <i>(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a report on improper pesticide usage countywide as reported to the Contra Costa County Agricultural Commissioner.)</i></p>

C.9.h.ii ► Public Outreach: Point of Purchase

Provide a summary of public outreach at point of purchase, and any measurable awareness and behavior changes resulting from outreach (here or in a separate report); **OR** reference a report of a regional effort for public outreach in which your agency participates.

Summary: *(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a report on point of purchase public outreach conducted countywide and regionally on our behalf.)*

C.9.h.vi ► Public Outreach: Pest Control Operators

Provide a summary of public outreach to pest control operators and landscapers and reduced pesticide use (here or in a separate report); **OR** reference a report of a regional effort for outreach to pest control operators and landscapers in which your agency participates.

Summary: The City participates in a regional outreach to Pest Control Operators and encourages them to become green certified.
(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of our participation in and contributions towards countywide and regional public outreach to pest control operators and landscapers to reduce pesticide use.)

Section 10 - Provision C.10 Trash Load Reduction

C.10.a.i ► Short-Term Trash Loading Reduction Plan

(For FY 10-11 Annual Report only) Provide description of actions/tasks initiated/conducted/completed in developing a Short-Term Trash Loading Reduction Plan (due February 1, 2012).

Description:

C.10.a.ii ► Baseline Trash Load and Trash Load Reduction Tracking Method

(For FY 10-11 Annual Report only) Provide description of actions/tasks initiated/conducted/completed to gather trash loading data and develop a Baseline Trash Load and Trash Load Reduction Tracking Method (due February 1, 2012).

Description:

C.10.a.iii ► Minimum Full Trash Capture

(For FY 10-11 Annual Report and Each Annual Report Thereafter) Provide a description of actions/tasks initiated/conducted/completed in implementing Minimum Full Trash Capture Devices (due July 1, 2014) within individual jurisdictions. Include information on Full Trash Capture Devices installed under Bay-area Wide Trash Capture Demonstration Project administered by San Francisco Estuary Partnership.

Description:

C.10.b.iii ► Trash Hot Spot Assessment

(For FY 10-11 Annual Report and Each Annual Report Thereafter) Provide volume of material removed from each Trash Hot Spot cleanup, and the dominant types of trash (e.g., glass, plastics, paper) removed and their sources to the extent possible. Provide required photo documentation.

(MRP Provision C.10.b.ii. states: "The list [i.e., of selected Hot Spots] should include photo documentation (one photo per 50 feet) and initial assessment results for the proposed hot spots". Consistent with this language, most all Contra Costa Permittees submitted the photo documentation and initial assessment information to the San Francisco Bay Water Board with their proposed Hot Spot list on July 1, 2010. The July 1, 2010 submittal compiled all Contra Costa Permittees' information.)

Trash Hot Spot	Cleanup Date	Volume of Material Removed	Dominant Type of Trash	Trash Sources (where possible)
<i>(Please review the Contra Costa Clean Water Program's July 1, 2010 Trash Hot Spot submittal, made on our behalf, to the Executive Officer, which provides our Trash Hot Spot list, cleanup date, volume of material removed, dominant types of trash, and where possible, trash sources.)</i>				

C.10.d ► Summary of Trash Load Reduction Actions

Provide summary of new trash load reduction actions or increased levels of implementation of existing actions that were implemented after adoption of the MRP (control measures and best management practices) including the types of actions and levels of implementation, and the total trash loads and dominant types of trash removed from each type of action.

Suggested trash load reduction actions to track and report may include:

- Anti-litter Campaigns
- Anti-litter/Dumping Enforcement Activities
- Curbside Recycling Programs
- Education and Outreach Efforts
- Free Trash Pickup/Drop-off Days
- County HHW Program Activities
- Improved Trash Bin Management
- Inspection/Maintenance of Storm Drain Outfalls
- Litter Pickup and Control
- Removal of Homeless Encampments
- Solid Waste Recycling Efforts
- Source Controls/Bans/Prohibitions
- Storm Drain Operation and Maintenance
- Storm Drain Signage/Marking
- Street Sweeping Activities
- Trash Removal from Receptacles
- Volunteer Creek Cleanups

Type of Trash Load Reduction Action	Date of First Implementation	Level of Implementation (specify if level was increased after MRP adoption)	Total Trash Load Removed by Action	Dominant Types of Trash Removed by Action
<i>Adopt-a-Spot</i>	Sept 2008	<i>2 local spots adopted</i>		<i>Garbage, debris</i>
<i>Solid Waste Recycling Efforts</i>	1990	<i>Mandatory – Citywide</i>		<i>Solid waste - garbage</i>
<i>Curbside Recycling</i>	Single Stream April 2009	<i>Mandatory - Citywide</i>		<i>Recyclables</i>
<i>Free Trash Pickup</i>	June 1999	<i>Twice a year in each neighborhood.</i>		<i>Large items illegally dumped (white goods, furniture, etc.)</i>
<i>Volunteer Clean up Days</i>	<i>Started 2001</i>	<i>Creek Clean ups and special neighborhood clean ups.</i>		<i>Debris, trash, recyclables, large bulky items (tires, racks, furniture, shopping carts, etc)</i>

<i>County/City HHW Program</i>	<i>Permanent Facility April 3, 2003</i>	<i>City sponsors the local HHW facility at Delta Diablo Sanitation District.</i>		<i>Paint, oil, household chemicals, batteries, aerosol cans, electronics, fluorescent tubes, etc.</i>
<i>Street Sweeping</i>		<i>14,000 miles of City Streets</i>	<i>2,701.25 cy</i>	<i>Garbage, debris</i>
<i>Storm Drain Marking</i>		<i>129 Storm Drains were marked with "No Dumping" message</i>		
<i>Storm Drain Operations and Maintenance</i>		<i>Yearly 2,743 facilities</i>	<i>973.02 cy</i>	<i>Garbage, debris</i>

Section 11 - Provision C.11 Mercury Controls

C.11.a.i ► Mercury Recycling Efforts

List below or attach lists of efforts to promote, facilitate, and/or participate in collection and recycling of mercury containing devices and equipment at the consumer level (e.g., thermometers, thermostats, switches, bulbs).

(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a list of mercury collection and recycling efforts conducted countywide and regionally on our behalf.)

C.11.a.ii ► Mercury Collection

Provide an estimate of the mass of mercury collected through these efforts, or provide a reference to a report containing this estimate.

Amount collected: *(See the Fiscal Year 2009 – 2010 Group Program Annual Report for an estimate of the mass of mercury collected countywide and regionally on our behalf.)*

- C.11.b ► Monitor Methylmercury**
- C.11.c ► Pilot Projects to Investigate and Abate Mercury Sources in Drainages**
- C.11.d ► Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices**
- C.11.e ► Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit**
- C.11.f ► Diversion of Dry Weather and First Flush Flows to POTWs**
- C.11.g ► Monitor Stormwater Mercury Pollutant Loads and Loads Reduced**
- C.11.h ► Fate and Transport Study of Mercury In Urban Runoff**
- C.11.i ► Development of a Risk Reduction Program Implemented Throughout the Region**
- C.11.j ► Develop Allocation Sharing Scheme with Caltrans**

State below if information is reported in a separate regional report. Municipalities that participate directly in regional activities to can provide descriptions below.

Summary: (See the Fiscal Year 2009 – 2010 Group Program Annual Report for a detailed summary of all ongoing and planned mercury investigations, monitoring studies and projects planned countywide and regionally on our behalf.)

Section 12 - Provision C.12 PCBs Controls

C.12.a.i.iii ► Municipal Inspectors Training

(For FY 09-10 Annual Report only) List below or attach description of results of training municipal industrial inspectors to identify, in the course of their existing inspections, PCBs or PCB-containing equipment.

Description: *(See the Fiscal Year 2009 – 2010 Group Program Annual Report for a summary of activities to provide, on our behalf, training for our municipal inspectors to identify PCBs and PCB containing equipment.)*

C.12.a.ii.iii ► Ongoing Training

(For FY 10-11 Annual Report and Each Annual Report Thereafter) List below or attach description of ongoing training development and inspections for PCB identification, including documentation and referral to appropriate regulatory agencies (e.g. county health departments, Department of Toxic Substances Control, California Department of Public Health, and the Water Board) as necessary.

Description:

C.12.b ► Conduct Pilot Projects to Evaluate Managing PCB-Containing Materials and Wastes during Building Demolition and Renovation Activities

C.12.c ► Pilot Projects to Investigate and Abate On-land Locations with Elevated PCB Concentrations

C.12.d ► Conduct Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices

C.12.e ► Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit

C.12.f ► Diversion of Dry Weather and First Flush Flows to POTWs

C.12.g ► Monitor Stormwater PCB Pollutant Loads and Loads Reduced

C.12.h ► Fate and Transport Study of PCBs In Urban Runoff

C.12.i ► Development of a Risk Reduction Program Implemented Throughout the Region

State below if information is reported in a separate regional report. Municipalities that participate directly in regional activities to can provide descriptions below.

Summary: (See the Fiscal Year 2009 – 2010 Group Program Annual Report for a detailed summary of all PCB investigations, monitoring studies and projects planned countywide and regionally on our behalf.)

Section 13 - Provision C.13 Copper Controls

C.13.a.i and iii ► Legal Authority: Architectural Copper

(For FY 10-11 Annual Report only) Do you have adequate legal authority to prohibit discharge of wastewater to storm drains generated from the installation, cleaning, treating, and washing of the surface of copper architectural features, including copper roofs to storm drains?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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If **No**, explain and provide schedule for obtaining authority within 1 year:

C.13.b.i and iii ► Legal Authority: Pools, Spas, and Fountains

(For FY10-11 Annual Report only) Do you have adequate legal authority to prohibit discharges to storm drains from pools, spas, and fountains that contain copper-based chemicals?

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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If **No**, explain and provide schedule for obtaining authority within 1 year:

C.13.c ► Vehicle Brake Pads

(See the FY 2009 – 2010 Group Program Annual Report for a detailed reporting on our contributions towards and participation in efforts to reduce copper discharges from automobile brake pads to surface waters via urban runoff.)

C.13.d.iii ► Industrial Sources Copper Reduction Results

List below or attach annotated lists or tables from your Industrial and Commercial Site Controls portion of this report, that highlight copper reduction results among the facilities identified as potential users or sources of copper, facilities inspected, and BMPs addressed. For FY 09-10 describe below or highlight in the C.4 Evaluation portion (if provided) of this report the steps taken to revise your program to meet new data tracking and reporting requirements for implementation levels described in C.13.d.ii.

Summary

C.13.e ► Studies to Reduce Copper Pollutant Impact Uncertainties

State below if information is reported in a separate regional report. Municipalities that participate directly in regional activities can provide descriptions below.

Summary (See the Fiscal Year 2009 – 2010 Group Program Annual Report on planned studies on our behalf to reduce copper pollutant impact uncertainties.)

Section 14 - Provision C.14 PBDE, Legacy Pesticides and Selenium Controls

C.14.a ► Control Programs for PBDEs, Legacy Pesticides and Selenium Controls

State below if information is reported in a separate regional report. Municipalities that participate directly in regional activities can provide descriptions below.

Summary: *(See the Fiscal Year 2009 – 2010 Group Program Annual Report on control programs for PBDEs, legacy pesticides and selenium controls to be conducted countywide and regionally on our behalf.)*

Section 15 - Provision C.15 Exempted and Conditionally Exempted Discharges

C.15.b.iii.(1), C.15.b.iii.(2) ► Planned and Unplanned Discharges of Potable Water

Is your agency a water purveyor?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
If No , skip to C.15.b.vi.(2):				
If Yes , Complete the attached reporting tables or attach your own table with the same information. Describe program highlights below. For FY 09-10 only, describe steps taken to revise your program to meet new monitoring, data tracking and reporting requirements.				
Summary:				

C.15.b.vi.(2) ► Irrigation Water, Landscape Irrigation, and Lawn or Garden Watering

<p>Provide implementation summaries of the required BMPs to promote measures that minimize runoff and pollutant loading from excess irrigation. Generally the categories are:</p> <ul style="list-style-type: none"> • Promote conservation programs • Promote outreach for less toxic pest control and landscape management • Promote use of drought tolerant and native vegetation • Promote outreach messages to encourage appropriate watering/irrigation practices • Implement Illicit Discharge Enforcement Response Plan for ongoing, large volume landscape irrigation runoff.
<p>Summary: The City has begun implementing the provisions of AB 1881, new state regulations requiring new development creating 2,550 sf of new landscaping to provide water efficient landscaping and irrigation systems. The City intends to pass a City Ordinance consistent with this legislation.</p> <p>In addition, the City has begun a citywide effort to reduce irrigation demands by removing sod from several City maintained landscaped areas as feasible.</p> <p>(See the FY 2009 – 2010 Group Program Annual Report for a detailed review of measures and policies we promote and implement that minimize runoff and pollutant loading from excess irrigation.)</p>

C.15.b.iii.(1) ► Planned Discharges of the Potable Water System										
Site/ Location	Discharge Type	Receiving Waterbody(ies)	Date of Discharge	Duration of Discharge (military time)	Estimated Volume (gallons)	Estimated Flow Rate (gallons/day)	Chlorine Residual (mg/L)	pH (standard units)	Discharge Turbidity ¹ (NTU)	Implemented BMPs & Corrective Actions
See Attached Table										

Notes:
¹ Monitor the receiving water for turbidity if necessary and feasible. Include data in this column if available.

C.15.b.iii.(2) ► Unplanned Discharges of the Potable Water System														
Site/ Location	Discharge Type	Receiving Waterbody(ies)	Date of Discharge	Discharge Duration (military time)	Estimated Volume (gallons)	Estimated Flow Rate (gallons/day)	Chlorine Residual ² (mg/L)	pH ² (standard units)	Discharge Turbidity (Visual) ²	Implemented BMPs & Corrective Actions	Time of discharge discovery	Regulatory Agency Notification Time ³	Inspector arrival time	Responding crew arrival time
See attachment.														

Notes:

1. This table contains all of the unplanned discharges that occurred in this FY.

2. Monitoring data is only required for 10% of the unplanned discharges. If you monitored more than 10% of your unplanned discharges report all of the data collected.

3. Notification to Water Board staff is required for unplanned discharges where the chlorine residual is >0.05 mg/L and total volume is ≥ 50,000 gallons. Notification to State Office of Emergency Services is required after becoming aware of aquatic impacts as a result of unplanned discharge or when the discharge might endanger or compromise public health and safety.

no.	Name	Address	Stormwater City	Program Category
1	American Auto Body	3001 N PARK Blvd	Pittsburg	Body Shop
2	Andy's Auto Body	430 E TENTH Street	Pittsburg	Body Shop
3	Castle Auto Body Shop	2250 FREED Way D	Pittsburg	Body Shop
4	DeRosa Auto Body	1090 HARBOR	Pittsburg	Body Shop
5	East Bay Auto Body	620 GARCIA Ave B & C	Pittsburg	Body Shop
6	Fermin's Auto Body Shop	487 W TENTH Street	Pittsburg	Body Shop
7	Gomez Auto Body	2160 PIEDMONT Way	Pittsburg	Body Shop
8	Hernandez Body Shop	107 BLISS Road	Pittsburg	Body Shop
9	High Tech Auto Body	418 E TENTH Street	Pittsburg	Body Shop
10	John Stanley Auto Body	325 E TENTH Street B	Pittsburg	Body Shop
11	Mike's Auto Body	3001 N PARK Blvd	Pittsburg	Body Shop
12	Russo Auto Paint	369 E TWELFTH Street	Pittsburg	Body Shop
13	Tepa Auto Body	640 GARCIA Ave A	Pittsburg	Body Shop
14	Chevron Food Mart #2104	1235 CALIFORNIA Ave	Pittsburg	Car Wash/Det.
15	Loveridge Shell Food Mart	2253 LOVERIDGE Road	Pittsburg	Car Wash/Det.
16	Superior Car Wash	3590 RAILROAD Ave	Pittsburg	Car Wash/Det.
17	T & J Professional Mobile Detail	2172 PIEDMONT Way C	Pittsburg	Car Wash/Det.
18	All Pure Pool Service	581 W 10TH Street	Pittsburg	Commercial
19	Antioch Building Material Company	1375 CALIFORNIA Ave	Pittsburg	Commercial
20	Bio-Zone Laboratories, Inc.	580 GARCIA Ave	Pittsburg	Commercial
21	Bishop Wisecarver	2104 MARTIN Way	Pittsburg	Commercial
22	Hassa, Inc.	1251 LOVERIDGE Road	Pittsburg	Commercial
23	Mt. Diablo Recycling Center	1300 LOVERIDGE Road	Pittsburg	Commercial
24	Ready Print	182 E LELAND Road	Pittsburg	Commercial
25	Redwood Painting Co.	620 W TENTH Street	Pittsburg	Commercial
26	Tesoro Petroleum Coke Storage	595 E THIRD Street	Pittsburg	Commercial
27	Valero Logistics Operations	1100 WILLOW PASS Road	Pittsburg	Commercial
28	Vicking Processing Coporation	620 CLARK Ave	Pittsburg	Commercial
29	Diablo Ford	2757 RAILROAD Ave	Pittsburg	Fleet Operations
30	Pittsburg Corp Yard	357 E TWELFTH Street	Pittsburg	Fleet Operations
31	Allstar Tamales & Deli	1996 HARBOR Street A	Pittsburg	Food Service
32	Al's Donuts	2241 RAILROAD Ave	Pittsburg	Food Service
33	Al's Snack Shop	1390 RAILROAD Ave	Pittsburg	Food Service
34	Angelo's Pizza & Wings	114 ARMY Street	Pittsburg	Food Service
35	Bentoya Teriyaki	2243 RAILROAD Ave	Pittsburg	Food Service
36	Best Donuts & Ice Cream	2123 LOVERIDGE Road	Pittsburg	Food Service
37	Birrieria El Puente	3748 RAILROAD Ave	Pittsburg	Food Service
38	Bulacan Bakery	2931 N HARBOR Street	Pittsburg	Food Service
39	Burger King #2505	2162 RAILROAD Ave	Pittsburg	Food Service
40	Burger King #6841	604 BAILEY Road	Pittsburg	Food Service
41	Carl's Jr.	4595 CENTURY Blvd	Pittsburg	Food Service
42	Carnitas Tijuana	2193 RAILROAD Ave	Pittsburg	Food Service
43	Chili's	4330 CENTURY Blvd	Pittsburg	Food Service
44	Chinatown Restaurant	184 ATLANTIC Ave	Pittsburg	Food Service
45	Chipotle	4418 CENTURY Blvd	Pittsburg	Food Service
46	Country Waffles	2921 HARBOR Street C	Pittsburg	Food Service
47	Dad's BBQ	785 RAILROAD Ave	Pittsburg	Food Service
48	Del Taco #886	4490 DELTA GATEWAY Blvd	Pittsburg	Food Service
49	Domino's Pizza	2961 RAILROAD Ave	Pittsburg	Food Service
50	Downtown Café	337 RAILROAD Ave	Pittsburg	Food Service
51	E & G Chinese Cuisine	2141 LOVERIDGE Road	Pittsburg	Food Service
52	El Guadalajara Taqueria	3835 RAILROAD Ave	Pittsburg	Food Service
53	El Matador	95 BLISS Ave	Pittsburg	Food Service
54	El Pollo Loco	4444 CENTURY Blvd	Pittsburg	Food Service
55	El Salvadareno Restaurant	196 ATLANTIC Ave	Pittsburg	Food Service
56	Fresh Donuts	418 ATLANTIC Ave	Pittsburg	Food Service
57	Hawaiian Drive Inn #28	149 ATLANTIC Ave	Pittsburg	Food Service
58	In-N-Out Burger #168	4550 DELTA GATEWAY Blvd	Pittsburg	Food Service
59	International House of Pancakes	2290 LOVERIDGE Road	Pittsburg	Food Service
60	Jack in the Box	1213 CALIFORNIA Ave	Pittsburg	Food Service
61	Jack In The Box #510	2135 RAILROAD Ave	Pittsburg	Food Service

no.	Name	Address	Stormwater City	Program Category
62	Jade House Chinese Resturant	2931 HARBOR Street	Pittsburg	Food Service
63	Kentucky Fried Chicken #275/Long	2155 RAILROAD Ave	Pittsburg	Food Service
64	La Huasteca Restaurant	3821 RAILROAD Ave	Pittsburg	Food Service
65	La Veranda	444 RAILROAD Ave	Pittsburg	Food Service
66	Las Fuentes Restaurant	2221 RAILROAD Ave	Pittsburg	Food Service
67	Las Panchitas	1270 E LELAND Ave 100	Pittsburg	Food Service
68	Little Caesar's Pizza	176 ATLANTIC Ave	Pittsburg	Food Service
69	Little J's	3350 LOVERIDGE Road	Pittsburg	Food Service
70	McDonalds #17529 located in	2203 LOVERIDGE Road	Pittsburg	Food Service
71	McDonald's #8	460 ATLANTIC Ave	Pittsburg	Food Service
72	Mehran Restaurant	3841 RAILROAD Ave	Pittsburg	Food Service
73	Mi Salvador Restaurante	2909 RAILROAD Ave	Pittsburg	Food Service
74	Mom's Donuts & Ice Cream	636 BAILEY Road	Pittsburg	Food Service
75	Nation's Giant Hamburgers	3789 RAILROAD Ave	Pittsburg	Food Service
76	New Mecca Restaurant	324 RAILROAD Ave	Pittsburg	Food Service
77	Olive Garden Restaurant #1341	4195 CENTURY Blvd	Pittsburg	Food Service
78	Outback Steakhouse	4350 CENTURY Blvd	Pittsburg	Food Service
79	Panda Express	2120 RAILROAD Ave 100A	Pittsburg	Food Service
80	Panderia Leon Bakery	3712 RAILROAD Ave	Pittsburg	Food Service
81	Panderia Velez Bakery	3712 RAILROAD Ave	Pittsburg	Food Service
82	Perko's Café	2921 HARBOR Street C	Pittsburg	Food Service
83	Pizza Guys	4001 RAILROAD Ave	Pittsburg	Food Service
84	Plan B (A Taste of Soul)	2227 RAILROAD Ave	Pittsburg	Food Service
85	Popeye's Chicken & Biscuits	1283 E LELAND Road	Pittsburg	Food Service
86	Ramar Foods International (Dairy	1101 RAILROAD Ave	Pittsburg	Food Service
87	Ramar Foods International (Meat	335 CENTRAL Ave	Pittsburg	Food Service
88	Red Lobster #653	4095 CENTURY Blvd	Pittsburg	Food Service
89	Reynita Restaurant	745 RAILROAD Ave	Pittsburg	Food Service
90	Round Table Pizza	1331 BUCHANAN Road	Pittsburg	Food Service
91	Round Table Pizza	408 BAILEY Road	Pittsburg	Food Service
92	Smit's Family Restaurant	140 E LELAND Road	Pittsburg	Food Service
93	Sun On Restaurant	1317 BUCHANAN Road	Pittsburg	Food Service
94	Super Taco Mexican Food	2175 RAILROAD Ave	Pittsburg	Food Service
95	Taco Bell #4617	2111 LOVERIDGE Road	Pittsburg	Food Service
96	Taco Bell/Pizza Hut Express	4470 CENTURY Blvd	Pittsburg	Food Service
97	Taqueria Los Reyes	526 BAILEY Road	Pittsburg	Food Service
98	The Cheese Steak Shop	4581 CENTURY Blvd	Pittsburg	Food Service
99	Viva Mexico Grill & Cantina	1335 BUCHANAN Road	Pittsburg	Food Service
100	Wah Sing Chinese Restaurant	2222 RAILROAD Ave	Pittsburg	Food Service
101	Wedgewood	2222 GOLF CLUB Road	Pittsburg	Food Service
102	Wendy's Old Fashioned	2243 LOVERIDGE Road	Pittsburg	Food Service
103	Wing Stop	4406 CENTURY Blvd	Pittsburg	Food Service
104	Arco AM/PM	1190 E LELAND Road	Pittsburg	Gas Station
105	USA Gasoline #127	2971 RAILROAD Ave	Pittsburg	Gas Station
106	Don Pepe's Mexican Market	2181 LOVERIDGE Road	Pittsburg	Grocery Store
107	Mi Pueblo Food Center	2100 RAILROAD Ave	Pittsburg	Grocery Store
108	Oriental Food Mart	155 ATLANTIC Ave	Pittsburg	Grocery Store
109	Raley's Supermarket #335	1375 BUCHANAN Road	Pittsburg	Grocery Store
110	Ramar International Foods	539 GARCIA Ave E	Pittsburg	Grocery Store
111	Safeway Food & Drug #1215-10	660 BAILEY Road	Pittsburg	Grocery Store
112	WinCo Foods	2400 N PARK Blvd	Pittsburg	Grocery Store
113	Angelica Healthcare	701 WILLOW PASS Road	Pittsburg	Permitted IU
114	Criterion Catalyst & Technologies,	2840 WILLOW PASS Road	Pittsburg	Permitted IU
115	Delta Energy Center	1090 ARCY Lane	Pittsburg	Permitted IU
116	Dow Chemical Company	901 LOVERIDGE Road	Pittsburg	Permitted IU
117	G & K Services	1229 CALIFORNIA Ave	Pittsburg	Permitted IU
118	Generon ICS Inc.	Foot of ARCY Lane	Pittsburg	Permitted IU
119	Generon IGS Inc.	Foot of ARCY Lane	Pittsburg	Permitted IU
120	GWF Power-Site 2	1600 LOVERIDGE Road	Pittsburg	Permitted IU
121	GWF Power-Site 5	555 NICHOLS Road	Pittsburg	Permitted IU
122	GWF Power-Site I	895 E THIRD Street	Pittsburg	Permitted IU

no.	Name	Address	Stormwater City	Program Category
123	Koch Carbon	707 E THIRD Street	Pittsburg	Permitted IU
124	Los Medanos Energy Center	750 E THIRD Street	Pittsburg	Permitted IU
125	Praxair Corporation	2000 LOVERIDGE Road	Pittsburg	Permitted IU
126	Quad Graphic (formerly Quebecor World USA)	1221 CALIFORNIA Ave	Pittsburg	Permitted IU
127	Roll Technology West	900 LOVERIDGE Road	Pittsburg	Permitted IU
128	Auto Masters	999 HARBOR Street A	Pittsburg	Vehicle Service
129	Big O Tires #11	1500 N PARK Blvd	Pittsburg	Vehicle Service
130	Burks Auto #1	2172 PIEDMONT Way F	Pittsburg	Vehicle Service
131	California Army National Guard	99 POWER Ave	Pittsburg	Vehicle Service
132	David & Sons Auto Repair	489 W TENTH Street	Pittsburg	Vehicle Service
133	Deluxe Automotive	2250 FREED Way SO	Pittsburg	Vehicle Service
134	Harley Davidson Motorcycle	2240 LOVERIDGE Road	Pittsburg	Vehicle Service
135	Pittsburg Automotive	2171 PIEDMONT Way B	Pittsburg	Vehicle Service
136	Jess Enterprises	2225 FREED Way C	Pittsburg	Vehicle Service
137	Jim's Auto Repair	586 W TENTH Street	Pittsburg	Vehicle Service
138	K & J Auto Repair/Towing	2275 FREED Way G	Pittsburg	Vehicle Service
139	Kustom Workshop	2250 FREED Way	Pittsburg	Vehicle Service
140	Naumex Auto Service	640 GARCIA Ave D	Pittsburg	Vehicle Service
141	Nico's Auto Repair	640 GARCIA Ave F	Pittsburg	Vehicle Service
142	Oil Changer #401	3858 RAILROAD Ave	Pittsburg	Vehicle Service
143	Pramros Auto & Forklift	2172 PIEDMONT Way A	Pittsburg	Vehicle Service
144	Precision Tune	2225 RAILROAD Ave	Pittsburg	Vehicle Service
145	Quality Tune-Up Shop #31	2145 RAILROAD Ave	Pittsburg	Vehicle Service
146	Saul's Auto Repairregional	640 GARCIA Ave C	Pittsburg	Vehicle Service
147	Tredshed Tire Pros	50 BLISS Ave	Pittsburg	Vehicle Service
148	Walmart Tire & Lube Express	2203 LOVERIDGE Road	Pittsburg	Vehicle Service
149	Winter Chevrolet	3750 CENTURY Way	Pittsburg	Vehicle Service
150	Winter Honda	3850 CENTURY Way	Pittsburg	Vehicle Service

Name	Address	Stormwater City	Program Category
Downtown Café	337 RAILROAD Ave	Pittsburg	Food Service
Jess Enterprises	2225 FREED Way C	Pittsburg	Vehicle Service
Castle Auto Body Shop	2250 FREED Way D	Pittsburg	Body Shop
Deluxe Automotive	2250 FREED Way SO	Pittsburg	Vehicle Service
K & J Auto Repair/Towing	2275 FREED Way G	Pittsburg	Vehicle Service
Precision Tune	2225 RAILROAD Ave	Pittsburg	Vehicle Service
DeRosa Auto Body	1090 HARBOR	Pittsburg	Body Shop
Saul's Auto Repairregional	640 GARCIA Ave C	Pittsburg	Vehicle Service
Sun On Restaurant	1317 BUCHANAN Road	Pittsburg	Food Service
David & Sons Auto Repair	489 W TENTH Street	Pittsburg	Vehicle Service
Diablo Ford	2757 RAILROAD Ave	Pittsburg	Fleet Operations
Kustom Workshop	2250 FREED Way	Pittsburg	Vehicle Service
Hernandez Body Shop	107 BLISS Road	Pittsburg	Body Shop
Gomez Auto Body	2160 PIEDMONT Way	Pittsburg	Body Shop
Burks Auto #1	2172 PIEDMONT Way F	Pittsburg	Vehicle Service
Naumex Auto Service	640 GARCIA Ave D	Pittsburg	Vehicle Service
Harley Davidson Motorcycle	2240 LOVERIDGE Road	Pittsburg	Vehicle Service
Hassa, Inc.	1251 LOVERIDGE Road	Pittsburg	Commercial
Raley's Supermarket #335	1375 BUCHANAN Road	Pittsburg	Grocery Store
John Stanley Auto Body	325 E TENTH Street B	Pittsburg	Body Shop
Valero Logistics Operations	1100 WILLOW PASS Road	Pittsburg	Commercial
Fermin's Auto Body Shop	487 W TENTH Street	Pittsburg	Body Shop
Tesoro Petroleum Coke Storage	595 E THIRD Street	Pittsburg	Commercial
East Bay Auto Body	620 GARCIA Ave B & C	Pittsburg	Body Shop
Fast Trac Automotive	510 GARCIA Ave	Pittsburg	Vehicle Service
Nico's Auto Repair	640 GARCIA Ave F	Pittsburg	Vehicle Service
Ready Print	182 E LELAND Road	Pittsburg	Commercial
Andy's Auto Body	430 E TENTH Street	Pittsburg	Body Shop
High Tech Auto Body	418 E TENTH Street	Pittsburg	Body Shop
Russo Auto Paint	369 E TWELFTH Street	Pittsburg	Body Shop
Vicking Processing Coporation	620 CLARK Ave	Pittsburg	Commercial
Bishop Wisecarver	2104 MARTIN Way	Pittsburg	Commercial
California Army National Guard	99 POWER Ave	Pittsburg	Vehicle Service
Bio-Zone Laboratories, Inc.	580 GARCIA Ave	Pittsburg	Commercial
Redwood Painting Co.	620 W TENTH Street	Pittsburg	Commercial
Jim's Auto Repair	586 W TENTH Street	Pittsburg	Vehicle Service
American Auto Body	3001 N PARK Blvd	Pittsburg	Body Shop
Tredshed Tire Pros	50 BLISS Ave	Pittsburg	Vehicle Service
New Mecca Restaurant	324 RAILROAD Ave	Pittsburg	Food Service
USA Gasoline #127	2971 RAILROAD Ave	Pittsburg	Gas Station

Subtotal: 40

Permitted IUs

Angelica Healthcare	701 WILLOW PASS Road	Pittsburg	Permitted IU
Criterion Catalyst & Technologies, LP	2840 WILLOW PASS Road	Pittsburg	Permitted IU
Delta Energy Center	1090 ARCY Lane	Pittsburg	Permitted IU
Dow Chemical Company	901 LOVERIDGE Road	Pittsburg	Permitted IU
G & K Services	1229 CALIFORNIA Ave	Pittsburg	Permitted IU
Generon ICS Inc.	Foot of ARCY Lane	Pittsburg	Permitted IU
Generon IGS Inc.	Foot of ARCY Lane	Pittsburg	Permitted IU
GWF Power-Site 2	1600 LOVERIDGE Road	Pittsburg	Permitted IU
GWF Power-Site 5	555 NICHOLS Road	Pittsburg	Permitted IU
GWF Power-Site I	895 E THIRD Street	Pittsburg	Permitted IU
Koch Carbon	707 E THIRD Street	Pittsburg	Permitted IU

Name	Address	Stormwater City	Program Category
Los Medanos Energy Center	750 E THIRD Street	Pittsburg	Permitted IU
Praxair Corporation	2000 LOVERIDGE Road	Pittsburg	Permitted IU
Quebecor World USA	1221 CALIFORNIA Ave	Pittsburg	Permitted IU
Roll Technology West	900 LOVERIDGE Road	Pittsburg	Permitted IU

Subtotal: 15

Annual Target: 55

Pittsburg Enforcement Summary - FY 2009-10

Faciltiy Type	Company Name	Address	Inspector	Date	Inspection	Enf Action	Type of Violation (1)	Timely Resolved?	Details
Commercial	All Pure Pool Service	581 W 10TH Street	R. Brothers	5/12/2010	Initial	NOV	PD	Y	Rinse water from swimming pool chemical manufacturing company was discharging into the storm drain system. Discharge stopped while on-site

(1) PE=Pollutant Exposure
PD=Pollutant Discharge

CITY OF PITTSBURG N.P.D.E.S.

EMERGENCY & ENVIRONMENTAL MANAGEMENT PHONE NUMBERS

LOCAL GOVERNMENTAL CONTACTS

DEVELOPMENT SERVICES DEPT.: (925) 252-4930
ENVIRONMENTAL AFFAIRS: (925) 252-4114

ANTIOCH STORMWATER CONTACT: (925) 779-7035

MAINTENANCE DEPARTMENT: (925) 252-4936
AFTER HOURS: (925) 252-4936

ANTIOCH MAINTENANCE DEPT.: (925) 779-6950
ANTIOCH AFTER HOURS: (925) 778-2441

PITTSBURG POLICE DEPARTMENT: (925) 252-4980

ANTIOCH POLICE DEPARTMENT: (925) 778-2441

COUNTY / REGIONAL GOVERNMENTAL CONTACTS

CONTRA COSTA COUNTYFIRE
PROTECTION DISTRICT: (925) 757-1303

UNINCORPORATED CONTRA COSTA
COUNTY: (925) 313-2259
AFTER HOURS CALL HAZMAT OR 911

CCC HAZMAT 24-HOUR EMERGENCY: (925) 646-1112

SHERIFF'S COMMUNICATIONS CENTER: (925) 646-2441

DELTA DIABLO SANITATION DISTRICT 24- HR:
(925) 382-6960

CCC ENVIRONMENTAL HEALTH SERVICES:
(925) 646-5225; 7:30A.M. – 5:00P.M. WEEKDAYS

DELTA HOUSEHOLD HAZARDOUS WASTE
COLLECTION FACILITY: (925) 756-1990

SAN FRANCISCO BAY REGIONAL WATER QUALITY
CONTROL BOARD: (510) 622-2300 (Pittsburg)

EAST BAY REGIONAL PARK DISTRICT- FIRE DISTRICT
24-HOUR HOTLINE: (510) 881-1121

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL
BOARD: (916) 464-4730 (Antioch)

STATE AND FEDERAL AGENCIES

OFFICE OF EMERGENCY SPILL LINE :
(800) 852-7550

CA HIGHWAY PATROL: (925) 646-4980

DEPT. OF FISH & GAME- 24 HOUR DISPATCH:
(831) 649-2801

CAL EPA – DEPT. OF TOXIC SUBSTANCE CONTROL
(Region 2): (510) 540-3856

CAL OCCUPATIONAL SAFETY AND HEALTH
ADMINISTRATION: (925) 602-6517

US COAST GUARD – MARINE SAFETY OFFICE:
(510) 437-3073 (Alameda) (707) 374-2655 (Rio Vista)

SHERIFF (MARINE): (707) 421-7090
24- HR: (707) 421-7084

VECTOR CONTROL: (925) 685-9301

Your Delta Journal



Delta Waters Education Program

Please join us in thanking the team that created this unique program:

- ✿ Laura Wright, City of Pittsburg
- ✿ Patty Deutsche, The Dow Chemical Company
- ✿ Bonnie Berquist, Bidwell High School
- ✿ Achilles Tiu, Pittsburg High School
- ✿ Mitch Schweikert, Los Medanos College
- ✿ Chris Coan, Willow Cove Elementary School
- ✿ Beverly Meyer, Marina Vista Elementary School
- ✿ Jackie Hagen, U.S. Fish & Wildlife Service
- ✿ Krist Jensen, The Dow Wetlands Team
- ✿ Catherine Mandella, California Department of Fish & Game
- ✿ Beth Campbell, U.S. Fish & Wildlife Service
- ✿ Louanne McMartin, U.S. Fish & Wildlife Service
- ✿ Mary Laufer, Deer Valley Law Academy/Biology

Special thanks to Heather & Steve Ingram of Delta Discovery Cruises, without whom this would not have been possible.



This Journal Belongs To:

Date of Journey: _____



Safety Tips



- ◇ Listen to the Captain



- ◇ Students keep life jackets on during voyage
- ◇ Adults – know where the life jackets are



- ◇ No climbing on railings



- ◇ No running (decks can be slippery)



- ◇ Know where the bathrooms are and follow directions

Your Cruise Itinerary

What is a Watershed? Human Impact.

Station A: Water Quality

Station B: Navigation

Station C: Benthic Grab & Plankton Net

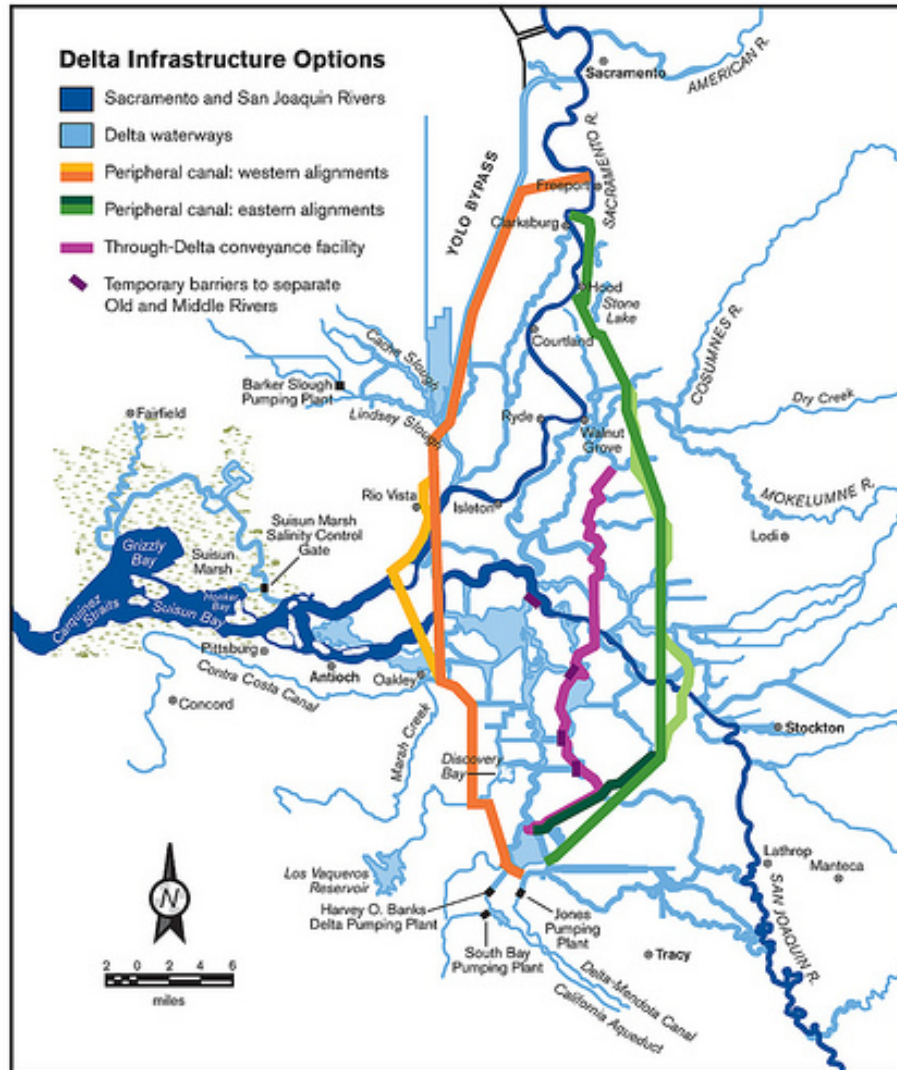
Station D: Food Chain & Invasive Species

Human Pollution

California

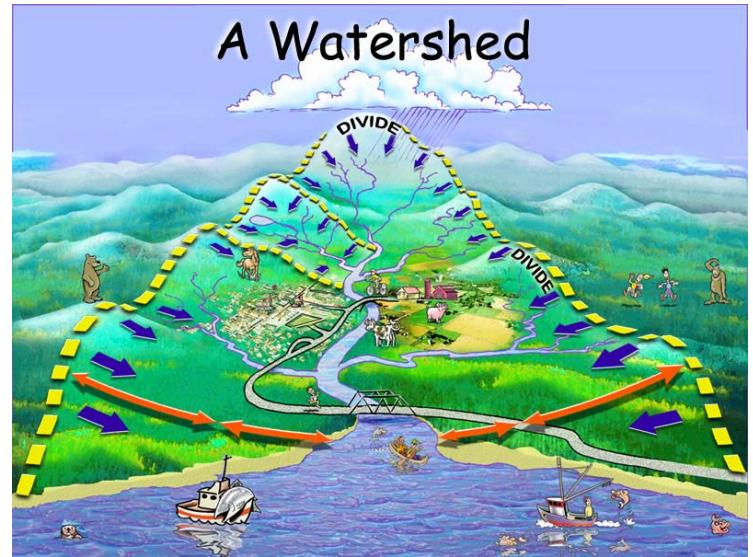


The Delta Region



What is a Watershed?

A watershed is a geographic area in which water, sediments, and dissolved minerals all drain into a common body of water like the Delta. A watershed includes all of the plants, animals and people that live in it, as well as non-living components like rocks and soil.

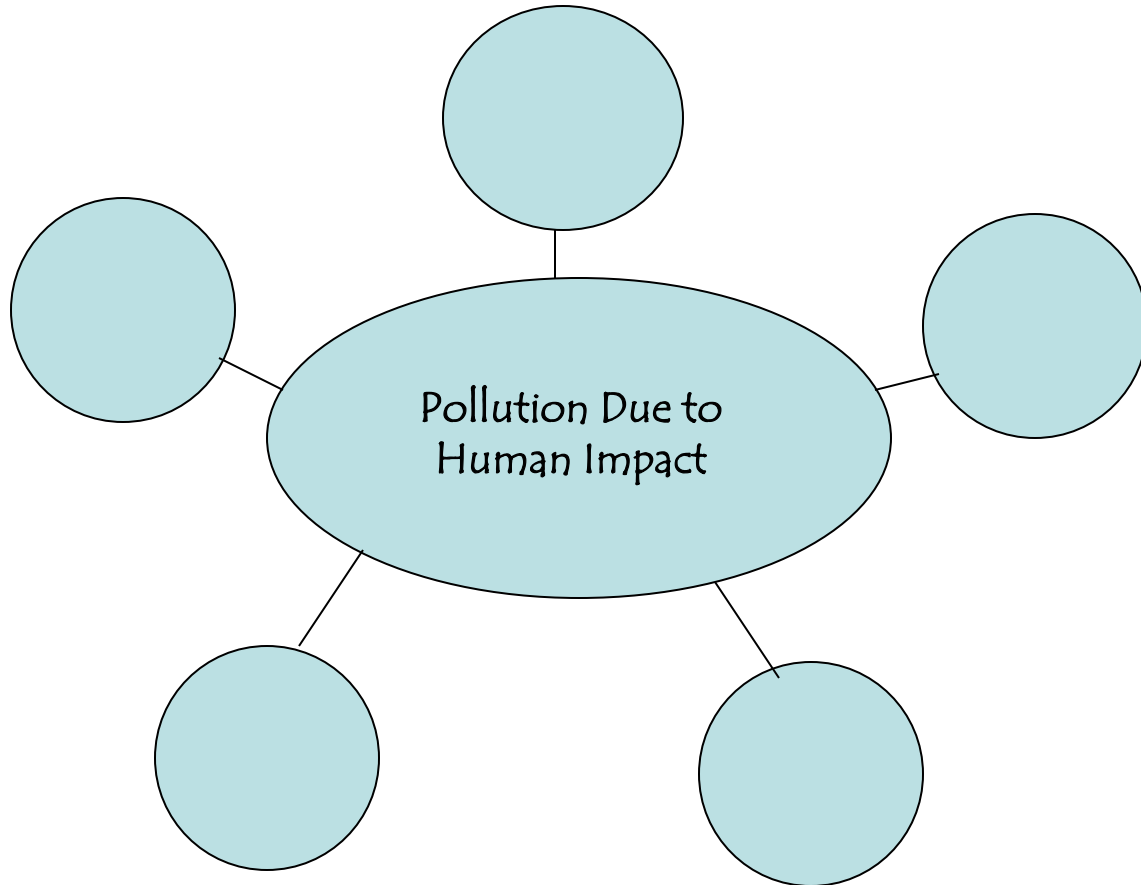


Our Local Watershed

♦ Map of Kirker



Human Pollution



Human Pollution

Can you predict what will happen to all of these forms of pollution when the rains fall? Where will the pollution go?

Pollution
on Land



Rainfall

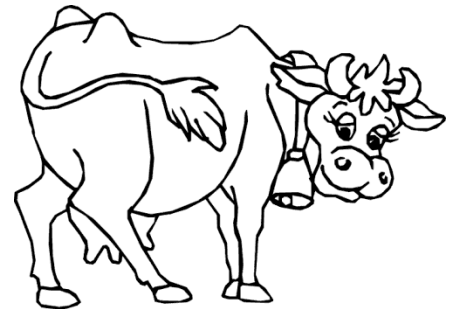
A large, empty rectangular box with rounded corners and a blue border, intended for the user to write their prediction about where the pollution will go after rainfall.

Human Pollution

- ♦ How could construction workers prevent soil from running off into the Delta?
- ♦ How could farmers prevent fertilizers and pesticides from running off into the Delta?

Human Pollution

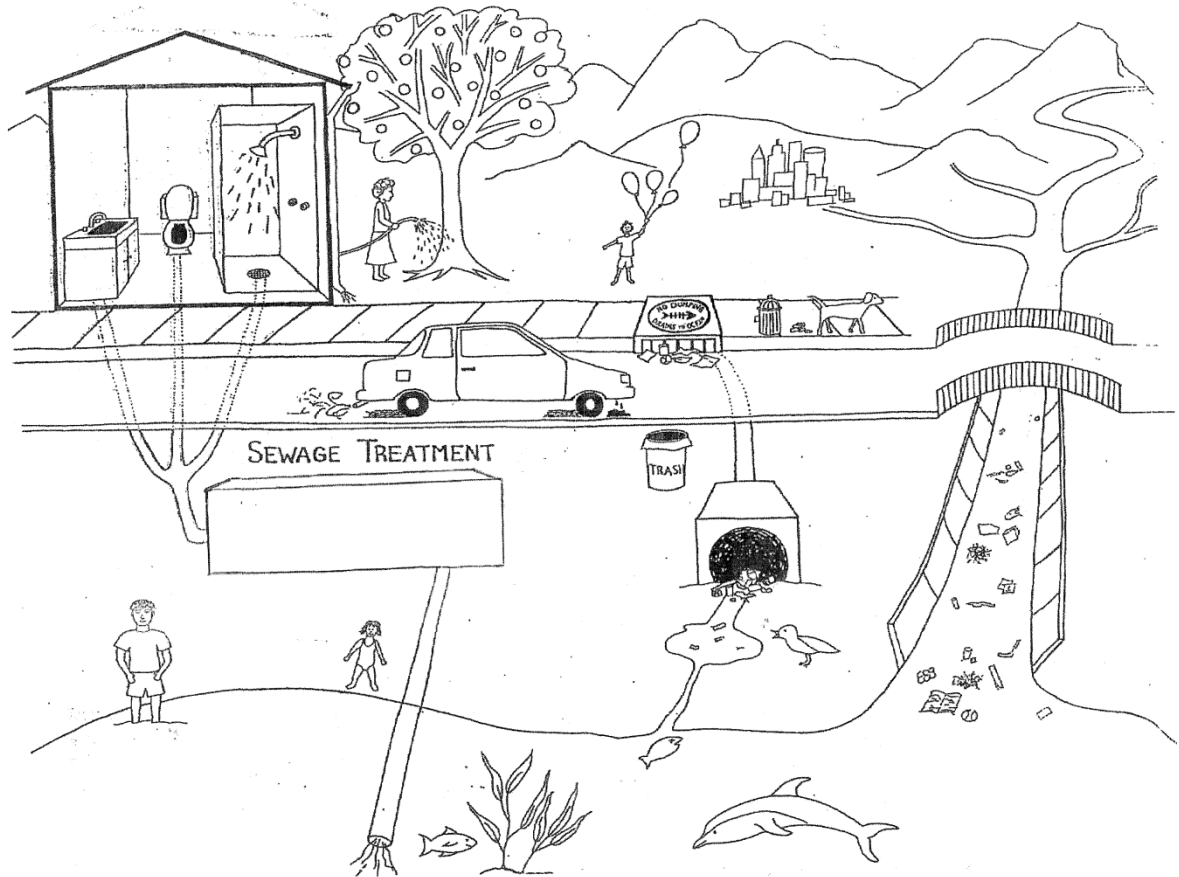
- ♦ How could you prevent motor oil from running off into the Delta?
- ♦ How could you prevent cow manure from running off into the Delta?



Human Activities

- ◇ What can you do to prevent garbage from entering our watershed and our Delta?
Why does it matter?

Human Pollution



Station A: Water Quality

Data Collection:

1. Water Temperature _____ Celsius
2. pH Measurements
 - ♦ Using pH paper _____
 - ♦ Using pH meter _____
3. Conductivity _____ Salinity _____
4. Turbidity _____
5. Dissolved Oxygen _____ ppm

Station A: Water Quality

Convert the temperature you measured from degrees Celsius into degrees Fahrenheit:

$$1.8 \times \text{Celsius} + 32 = \underline{\hspace{2cm}}$$

Most aquatic animals and plants thrive best when the pH is between 6.5–8.2, and when the Dissolved Oxygen is 7 ppm or greater. How do your measured values compare to these standards?

Station A: Water Quality

What would happen to the conductivity measurement, if you dissolved some table salt into your water sample?

What would happen to the conductivity measurement, if you dilute the water sample with distilled (deionized) water?

Station A: Water Quality

Lake Tahoe's water is so clear, that you can usually see the bottom in 66 feet of water. How does the Delta water compare to that? Would Lake Tahoe's water have a greater or lesser turbidity than the water sample you just measured?

Suppose a student measured the pH of river water with pH paper, and the colors indicated the pH was around 6. Another student measures the same sample with a pH meter, and the meter reads exactly 6.00. Is "6" (pH paper) the same measurement as "6.00" (pH meter)?

Station B: Navigation

Introduction to Navigational Instruments & Safety Equipment by the Captain

What is the Importance Of:

1. Marine VHF Radio _____
2. Engine Gauges _____
3. Engine Controls _____
4. GPS/Chart Plotter _____
5. Depth Finder _____
6. Radar _____
7. Weather Station _____
8. Compass _____
9. Horn _____

Station B: Navigation

Navigational Exercise

1 Knot = 1 Nautical mph = 1.15 Land mph

Distance = Speed x Time

If we travel at _____ Knots for _____ minutes, How many Nautical Miles will we travel? _____

Extra Stuff: Where is the Port Side of the Boat? _____

Where is the Starboard Side? _____

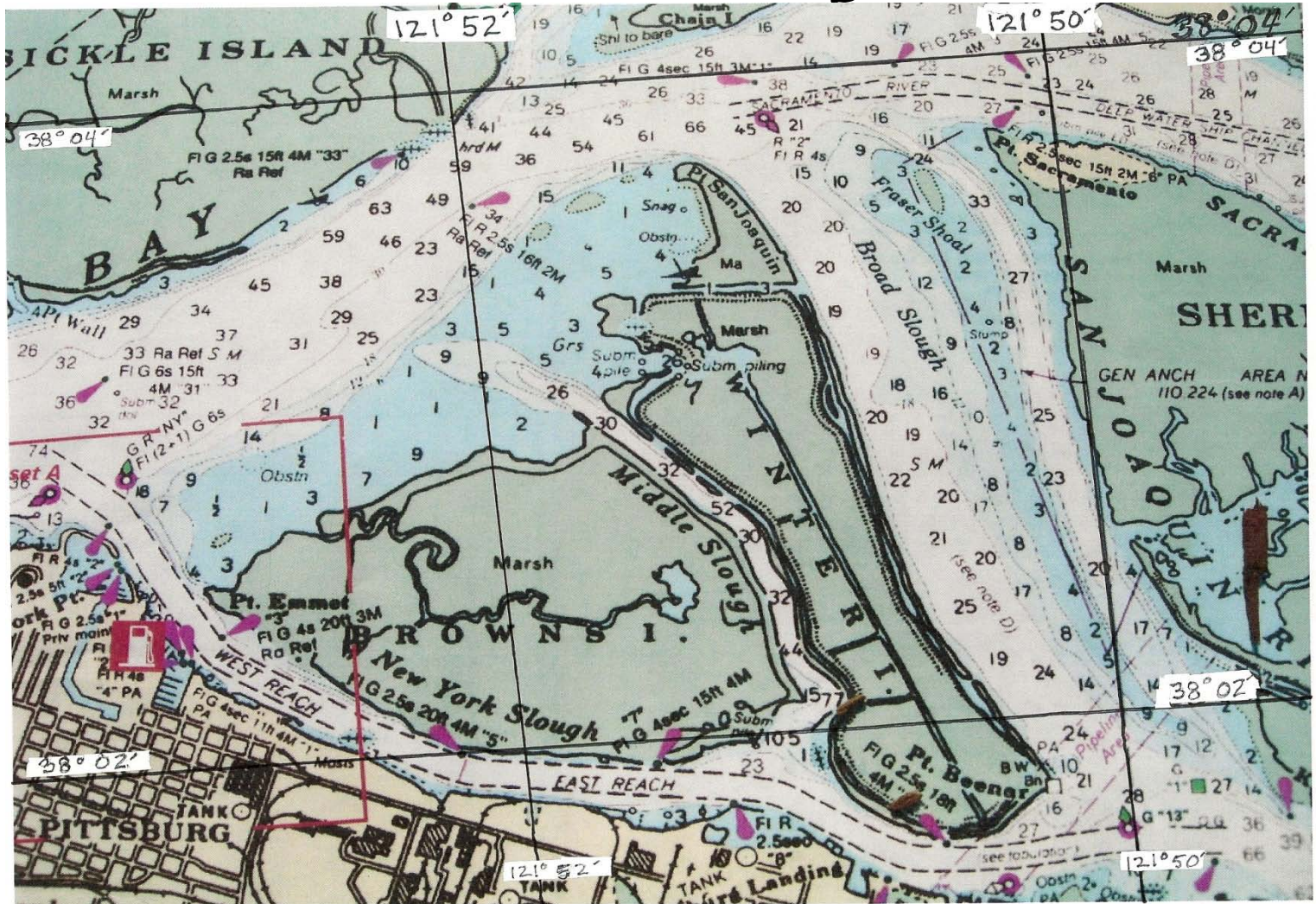
Where is the Bow? _____ The Stern? _____

Station B: Navigation

Charting Exercise

1. Using the nautical chart, and our current "Position" latitude/longitude (Given by the Captain) Locate our Position on the chart.
2. Compare your findings with the GPS/Chart Plotter.
3. What does the chart tell us about this area?
 1. What is name of the waterway?
 2. What is the depth?
 3. What is the nearest channel marker?
 4. What is the nearest Island?
 5. Are there any navigational hazards?

Station B: Navigation

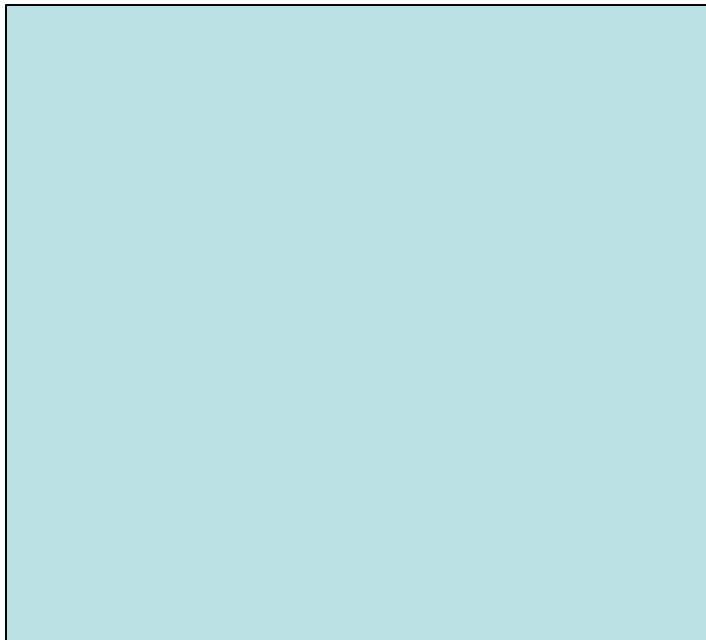


Station C: Benthic Grab

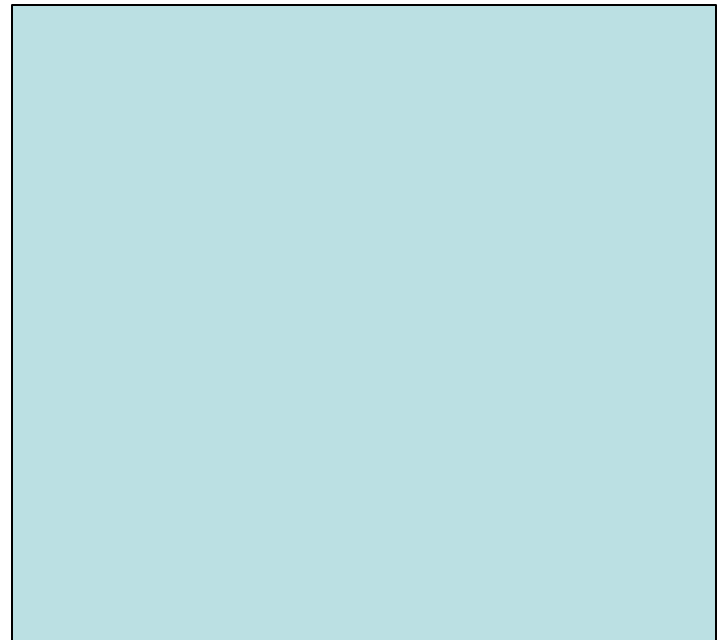
BENTHIC GRAB

Draw what you see!!!!

Use the posters to try to identify what is on the bottom of the Delta.
Count too!



Name of organism _____
Count _____



Name of organism _____
Count _____

Station C: Plankton Net

PLANKTON STUDENT DATA SHEET

Draw as many different kinds of plankton as you see on the screen.
Can you name them? Count them too!!!

Name of organism:

Count _____

Name of organism:

Count _____

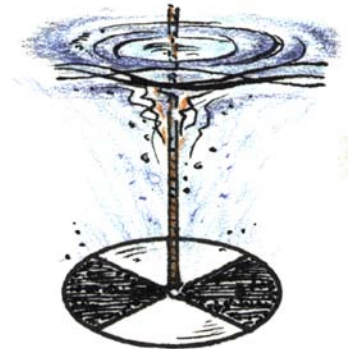
Name of organism:

Count _____

Station C: Secchi Disk

Secchi Disk–

- At what depth does the secchi disk disappear?
- Is water clarity good or bad for the health of the Delta? Why?



secchi disk

Station D: Food Chain

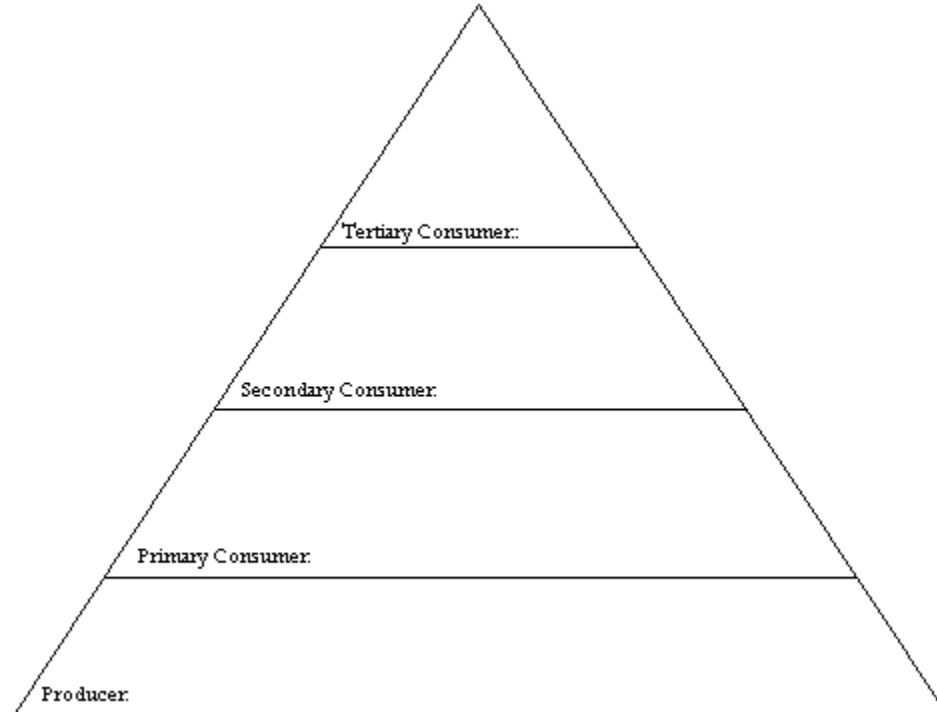
Food Chain:

- ◇ What difference did it make what color sacks the clams, mussels and fish "ate" ?
- ◇ What did the magnet show about what was also in the phytoplankton sacks?
- ◇ How much poison ended up in the tertiary consumer due to biomagnification?

Station D: Food Chain

Food Chain:

- ♦ Fill in this food pyramid with your own examples of animals.



Station D: Food Chain

- ◇ How do toxins from your pesticides end up getting all the way from the Delta to your plate?
- ◇ There are fish that eat other fish and are tertiary consumers. Why might a pound of fish from a big tertiary consumer fish like tuna have more mercury in it than a pound of fish from a smaller fish like tilapia that can eat mostly from the first two trophic levels?
- ◇ When you finish your turn at the watershed section, explain what you can do to minimize what toxins get biomagnified.

Station D: Invasives

Identify these Invasive Species:



Why is it important to prevent the spread of invasive species?

Vocabulary

My Reflections

I Spy....



This program was made possible by funding and donations from our sponsors:



Los Medanos College



This program was brought to you by:



Partners for the Watershed

Education & Stewardship Partners for Kirker Creek Watershed

- Pittsburg Unified School District • City of Pittsburg • Los Medanos College •
- The Dow Chemical Company • Delta-Diablo Sanitation District • Praxair, Inc. •
- East Bay Regional Park District • Supervisor Federal Glover •
- Contra Costa Resource Conservation District •
- U.S. Fish & Wildlife Service • California Department of Fish & Game •

City of Pittsburg
Neighborhood Improvement Team

Adopt-a-Spot Volunteer Program

Park 🌸 Creek 🌸 Drain 🌸 Street 🌸 Trail 🌸 Painting



You, your family, your company or organization can
make a difference in our Community.

For More Information Call.

925-252-4936

or visit www.ci.pittsburg.ca.us

Keep Pittsburg Clean & Beautiful!



Adopt-a-Spot Volunteer Program

The City of Pittsburgh Neighborhood Improvement Team is seeking volunteers to help maintain parks, creeks, drains, streets, and trails as well as assist with painting equipment and buildings within the City. The Neighborhood Improvement Team, in partnership individuals, neighborhood groups, civic organizations and local businesses, would like the community to take ownership, responsibility and pride of these public areas as well as make a visible impact in neighborhoods and reduce pollutants such as trash from entering our waterways and the Delta.

The City and nation are facing difficult times so it is more critical than ever to assist your local community and commit to cleaning and beautifying areas. Keeping our community and neighborhoods clean helps keep crime down and potentially maintain property values. Every person's actions count.

An Adopt-a-Spot project can include many different types of activities. It may be as simple as picking up stray litter in your local park once a month, or it may be a longer-term project such as weeding, planting, and maintaining a specific area. The Adopt-a-Spot program can accommodate an array of volunteer interests and goals.

What kind of work is involved?

- Removing litter
- Controlling weeds
- Spreading mulch
- Painting



City's Commitment:

- Clean up supplies: gloves, bags, pick up tools, first aid kit, tools, etc
- Safety instructions and safety supplies (as needed)
- Recognition of you and or your team's commitment on the City's website and possibly a Adopt-a-Spot courtesy sign
- Removal of trash, weeds, etc. collected

Volunteer's Commitment:

- Two year commitment (Businesses & Organizations)
- Individuals & families may do one time projects or commit to longer termed commitments.
- Adopted 'spot' must be cleaned at least 4 times a year.
- Notify City one (1) week prior to clean up event to coordinate resources as well as to make sure all paperwork is on file and current.

Definitions:

Project – From here on in this document the term "Project" will be used to mean any volunteer work performed at an adopted park/spot that may include but is not limited to: trash pickup, weeding, pruning, and planting.

The Adopt-a-Spot Volunteer Program gives civic minded individuals, neighborhood groups, civic organizations, and local businesses the opportunity to participate in creating a cleaner more beautiful community and to play an active and ongoing role in greening and maintaining our neighborhoods, streets, and parks.



Adopt-a-Spot Volunteer Program **GUIDELINES**



To help ensure your organization enjoys a stress-free project and to measure the success of the Adopt-A-Spot Program, the City of Pittsburgh's Neighborhood Improvement Team (NIT) has developed the guidelines below. **Please pay special attention to the reporting guidelines** as they are the only means for us to track your group's participation (your projects are credited and recorded in your file) as well as the progress of the Adopt-A-Spot Program as a whole.

- Within your organization, **identify the Adopt-A-Spot point person.**
- Within your organization, make a schedule of your projects; **establish the date, time, and number of volunteers for your projects.** Be sure to conduct a cleanup or maintenance day of the adopted area at least 4 times per year.
- The point person will contact NIT at 252-4936 (or number provided by staff contact) **to report the project information/ideas and schedule at least one (1) week prior to the start of the project for approval.** Larger projects, such as major planting projects, etc., may require more notice for the approval process.
- Prior to the scheduled project, the point person should **distribute and review the Project Safety Guidelines** and **have each volunteer sign a Volunteer Release Form.** These forms need to be turned in prior to the event.
- During your project, the point person should ensure that all volunteers **follow the Project Safety Guidelines** while proceeding to collect all loose litter, debris, and unsightly items.
- Once your organization's project is complete, **place any collected material** in a pre-designated spot and call after the event the location and number of bags (252-4936 or number provided by staff contact).
- Following your project, your group's point person is responsible for calling or e-mailing the NIT **to report the project date, the number of participating volunteers, the number of hours worked, the number of trash bags filled (if any) during the project.**
- **The Adopt-A-Spot point person should be sure to:**
 - ✓ Provide adult supervision for volunteers 14 to 18 years of age.
 - ✓ Make available water to participants, have a first aid kit and a cell phone in case of an emergency.
 - ✓ Call the NIT 252-4936 (or number provided by staff contact) when your point person/information changes.
 - ✓ Work Harmoniously with City staff, citizens, and other volunteers.

Remember to give your volunteers positive feedback and recognition within your organization to help increase participation for the next project!

Adopt-a-Spot Application
A City of Pittsburgh Neighborhood Improvement Team Program



Please complete this first half of this form and mail it to the address below or fax it to (925) 252-4851. Your request will be processed and a City staff person will contact you. If you have any questions or special needs, please call (925) 252-4936.

Today's Date: _____

Name of Group/Organization: _____

Primary Contact: _____

Email Address: _____

Phone #: _____

Cell #: _____

Fax #: _____

Mailing Address: _____

City: _____

State: _____

Zip Code: _____

1) Please check type of spot to be adopted:

- ☐ Park ☐ Creek ☐ Drain ☐ Trail ☐ Street (curb and sidewalk) ☐ Painting
☐ Other (please list) _____

2) Approximately how often do you plan to clean the site? ☐ weekly ☐ bimonthly ☐ monthly
☐ other: _____

And what services will you provide: ☐ litter pickup ☐ weeding ☐ planting ☐ watering
☐ painting ☐ pruning shrubs ☐ other _____

3) Approximately how many volunteers will be cleaning the area? _____

4) Generally, what day(s) of the week will you clean?

- ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun

5) List nearest address of your adopted spot: _____

I agree and am authorized on behalf of myself / family / group / organization (circle one) to commit to and abide by the terms and conditions City's Adopt-a-Spot Volunteer Program, its Guidelines, its Safety Guidelines, Code of Conduct and Recordkeeping.

VOLUNTEER'S Signature

VOLUNTEER'S Name (please print)



For Staff Use Only SITE ASSESSMENT

Date of Assessment: _____

Notes/Safety Concerns: _____

Site Approved/Denied by: _____

Date: _____



ADOPT-A-SPOT PROGRAM

PROJECT SAFETY GUIDELINES

Below is a list of suggestions from the City of Pittsburgh Neighborhood Improvement Team, Public Works and Parks & Recreation Departments to help make your project experience a safe one! Have a safety meeting with your Team prior to your project event to review these safety do's and don'ts.

Safety DOs:

- Wear gloves and thick-soled, closed-toe shoes.
- Wear long pants and long-sleeved shirts.
- Wear sunscreen and bug repellent. Wear a hat when appropriate.
- Dress appropriately for the weather.
- Drink plenty of fluids in extreme temperatures.
- Be aware of your surroundings and the potential hazards associated with them (e.g., passing cars, hazardous tree branches, poison ivy, etc.)
- Always sweep, rake or shovel glass. Never pick up sharp objects with your hands.
- When possible, stay on or work from the sidewalk. Never walk in the street.
- Request and use reflective vests when working in high traffic areas.
- Cross streets at signals or crosswalks.
- Use the “buddy system”--work in teams of two or three to maximize safety.
- Watch your footing on slopes and shorelines and never allow children to work on steep slopes or near shorelines without adult supervision.
- Keep pre-moistened towelettes on hand.
- Wash hands with antibacterial soap after the project, especially when dealing with trash pickup.
- Know emergency procedures, such as the location of the nearest emergency facility and how to quickly summon an ambulance or the police (call 911 or 646-2441).

Safety DON'Ts:

- NEVER TOUCH NEEDLES!!! Contact a City staff person to dispose of needles. Bring a flag marker with you to identify the location of any needle(s) that may be found.
- NEVER TOUCH HAZARDOUS WASTE!!! Hazardous waste includes toxins (like auto fluids, chemicals or paints) or medical waste. Contact your Team Leader or City staff person to report hazardous waste.
- Overstuff trash bags can rip, tear, or cause injuries.
- If an item is too large to move, report this information to your City contact (252-4936 or number provided by staff contact) for pickup by a City crew.
- Conduct projects during extremely inclement weather.
- Conduct projects near or around construction sites.

Adopt-a-Spot Program
A City of Pittsburgh Neighborhood Improvement Team Program

VOLUNTEERS IN CITY GOVERNMENT PROGRAM

I. ELIGIBILITY

- The City reserves the right to accept, decline, or release any volunteer in the program at any time.
- Minimum age requirements are based upon individual volunteer opportunities within the City.

II. GUIDELINES

- Volunteers in the program will be expected to dress accordingly, taking into consideration the work to be performed, the environment and safety. No political buttons, union shirts, etc., will be permitted.
- Volunteers may not drive or be transported in city-owned vehicles without prior authorization.
- Volunteers will be oriented and trained, if necessary, by the department they are assigned to.
- Volunteers requiring an absence shall inform their City of Pittsburgh designated contact.
- Volunteers regularly scheduled within a department should notify the City's designated contact if unable to report.

III. VOLUNTEER CODE OF CONDUCT

- Work harmoniously with City staff, citizens, customers and other volunteers. Be dependable in attendance, punctuality and performance of duties.
- Listen sympathetically to customers but never offer personal opinions.
- Avoid discussing personal problems in public.

IV. RECORDKEEPING

- Volunteer time actually worked should be recorded in hours and minutes rounded to the nearest quarter hour and reported to the supervisor in the department where the volunteer activities occur, on a weekly basis.

City of Pittsburgh

Adopt a Spot

Volunteer Waiver and Release Agreement for Minor Volunteers

Date: Fiscal Year July 1, 200 **– June 30, 201**

I have a minor volunteer participating in the City of Pittsburgh's Adopt a Spot Program scheduled for Fiscal Year July 1, 200 through June 30, 201 . As the parent/guardian of a minor performing *volunteer activities* for the City of Pittsburgh, I recognize and acknowledge that there are certain risks of serious injury. I understand that the creeks, parks, streets, drains, and trails may contain broken and discarded items such as glass bottles, sharp metal objects, and other potentially serious hazards. I understand that by the allowing the child/ward to participate in this volunteer activity that there is exposure to injury to the child/ward.

This Waiver and Release Agreement is intended to discharge in advance the City of Pittsburgh ('City') (its officers, employees, and agents) and person(s) owning land along the creek from any and all liability arising out of or connected in any way with my child/ward's participation in said activity, even though that liability may arise out of negligence or carelessness on the part of the persons or entities mentioned above. It is further agreed that this Waiver and Release is to be binding on my heirs and assigns. I agree to assume the full risk of any injuries, damage or loss which my minor child/ward may sustain as a result of participating in any and all activities connected with or associated with these volunteer activities.

Parent/Guardian additionally agrees to indemnify the City against any claims or rights of action for damages which the minor child/ward has before or after has the reach age of majority.

In the event of an emergency, I authorize City officials to secure from any licensed hospital, physician, and/or medical personnel any treatment deemed necessary for my minor child/ward's immediate care and agree that I will be responsible for payment of any and all medical services rendered.

I have read and fully understand the above Waiver and Release Agreement and Permission to Secure Treatment.

Parent/Guardian's SIGNATURE	Print Name (Parent / Guardian)
/	/
Emergency Contact	Emergency Phone Number
/	/
Relationship	

Any medications, allergies or health problems to be aware of?	VOLUNTEER'S Date of Birth
---	---------------------------

.....

I agree to abide by all instructions set forth by the City of Pittsburgh staff during my volunteer activities.

I understand that I am required to wear and /or use all safety equipment and follow safe work practices as designated by the City of Pittsburgh staff. If I am injured while participating in the event, I agree to report it to my crew chief or to the first aid staff immediately.

I agree to all of the above conditions.

VOLUNTEER'S Signature	VOLUNTEER'S Name (<i>please print</i>)
Home Number	E-mail address
School, Club, or other Affiliation	

Address	City	Zip Code
---------	------	----------

.....

Location(s) of volunteer activities: _____

City of Pittsburgh

Adopt a Spot Volunteer Waiver and Release Agreement for Volunteers

Date: Fiscal Year July 1, 200 **– June 30, 201**

I *volunteered to participate* in the City of Pittsburgh Adopt a Spot Program scheduled for Fiscal Year July 1, 200 through June 30, 201 . As a volunteer, over 18 years of age, performing activities for the City of Pittsburgh, I recognize and acknowledge that there are certain risks of serious injury. I understand that the creeks, parks, streets, drains, and trails may contain broken and discarded items such as glass bottles, sharp metal objects, and other potentially serious hazards. I understand that by participating in this volunteer activity that I expose myself to injury.

This Waiver and Release Agreement is intended to discharge in advance the City of Pittsburgh (its officers, employees, and agents) and person(s) owning land along the creek from any and all liability arising out of or connected in any way with my participation in said activity, even though that liability may arise out of negligence or carelessness on the part of the persons or entities mentioned above. It is further agreed that this Waiver and Release is binding on my heirs and assigns. I agree to assume the full risk of any injuries, damage or loss which I may sustain as a result of participating in any and all activities connected with or associated with these volunteer activities.

I do hereby fully release and discharge the City of Pittsburgh its officers, agents and employees from any and all claims from injuries, damage or loss which I may have or which may accrue to myself arising out of, connected with, or in any way associated with the volunteer activities.

In the event of an emergency, I authorize City officials to secure from any licensed hospital, physician, and/or medical personnel any treatment deemed necessary for my immediate care and agree that I will be responsible for payment of any and all medical services rendered. If I am injured while participating in the event, I agree to report it to my crew chief or to the first aid staff immediately.

I have read and fully understand the above Waiver and Release Agreement and Permission to Secure Treatment.

I agree to abide by all instructions set forth by the City of Pittsburgh staff during my volunteer activities.

I understand that I am required to wear and /or use all safety equipment and follow safe work practices as designated by the City of Pittsburgh staff.

SIGNATURE (*Volunteer*)

Name of Volunteer (*please print*)

Email address

School, Club, or other Affiliation

/

&

Emergency Contact / Relationship

Home & Emergency Phone Number

Address

City

Zip Code

.....

Location(s) of volunteer activities: _____



Delta Waters Education Tours Teacher's Guide & Logistics

Welcome! Partners For The Watershed wants this to be a great experience for you and your students. To help you, we are providing some resources and information to help you navigate the day. The following will provide information on what to prepare prior to the voyage, what to expect on the voyage as well as other logistics to be aware of.

Once you have scheduled the voyage.....

A Student Workbook and Teacher's Guide will be sent to your classroom along with a DVD (Synthetic Sea). Please take the time to review the Guide, complete identified lessons with the students as well as view the DVD before coming out to the Delta. Also, have the students personalize their workbook. Consider having the students apply sun block in the morning before they arrive at the boat since there will be some sun exposure. The vessel/boat can only accommodate 50-60 people and we need to make sure we have an accurate count to ensure we have all the necessary supplies prepared for the voyage.

Day of the voyage.....

- Arrive at the boat no later than 8:45 a.m. so we can get the students on board and settled to leave the marina at 9:00 or a little before. The program will need all 3 hours to complete the activities at each station.
- Lunch will not be provided. There are nice areas along the marina to have a picnic after the voyage. As part of the lessons, they might think about packing a zero waste lunch.
- Each station is design to be completed in 20-25 minutes so coordination throughout the tour will be important. The students will be divided into 4 groups as they come onto the boat and a student volunteer will be assigned to each group to provide assistance. An outline is provided.

After the voyage.....

A survey will be sent to you to provide us feedback on your experience. In addition, we may be asking for some information or examples from the students' workbooks in order to evaluate the effectiveness of the program. We look forward to working with you on this process.

Please prepare student for the voyage. Make sure student are dressed appropriately with tennis shoes, pants (it can get cold), and light jackets.

If you need to cancel your voyage, please call:

Laura Wright, City of Pittsburg	925-252-4114 / 925-383-1590 (cell)
Heather Ingram, Delta Discovery Cruises	925-303-0923 / 925-252-9300

Delta Water Education Tour ~ Outline

Stations and Education Content for Education Tours: (4th Grade layout)

Children arrive at the boat, come aboard and receive "Safety Talk."

During travel out of Pittsburg Marina students will receive the following:

- What is a Watershed?; Mapping of River/Delta and Proximity; Human Impact(Chris Coan ~ Willow Cove Elem)

Student will break into 4 groups (determined by identification sticker on child). Student volunteers from Bidwell HS will accompany each group and provide assistance at each station. Journaling will be continuous through the program with the guidance from a booklet to be created for this program. The 4 stations are as follows:

Station:	Subject Matter:	Location:	Field Technician:
Water Quality	pH, Temperature, Turbidity, Dissolved Oxygen, Salinity and the importance of Brackish Water / Delta	Upper Deck	♦Mitch Schweickert ~ Los Medanos College ♦Bidwell Student Volunteer(s)
Benthic Grab / Plankton Net / Secchi Disk	Collect sediment samples and microscopic water samples – observe in viewers and in microscope. Check water clarity.	Bow and Main Salon	♦Beth Campbell ~ USFW ♦Bonnie Berquist ~ Bidwell HS ♦Bidwell Student Volunteer(s)
Food Chain & Invasive Species	Competition for food, classification of organisms, connection with invasive species	Main Salon	♦Catherine Mandella ~ DFG ♦Achilleus Tiu – Pittsburg HS
Navigation / Bathyrthmic Station	Students can view equipment to understand navigation	Upper Deck	♦Steve Ingram ~ Delta Discovery Tours ♦Jackie Hagen ~ USFW

Traveling back to the Marina, students will have a chance to reflect on their experience and complete the "I Spy" section in the Student Workbook.

Delta Waters Education Program

Your Delta Journal

Teacher's Guide



What is a Watershed?

Human Impact

Station A: Water Quality

Station B: Navigation

Station C: Benthic Grab & Plankton Net

Station D: Food Chain & Invasive Species

Human Pollution

What is a Watershed? *(Please do this activity prior to the boat voyage.)*

What is a watershed and how does human impact affect it?

Objective of this learning center on the boat will be:

Students will learn what a watershed is by doing various activities and seeing a model of a watershed. Students will also see the various activities that humans in a community do and how that activity affects the health of a watershed and the river it flows into.

Vocabulary words:

Watershed: The path that water takes as it travels from the tops of hills all the way down to the river.

Activity to do prior to boat trip:

What is a watershed? (From Kids in Creeks)

Summary:

Students use crumpled paper to create a miniature watershed model to learn how water flows through this system.

Time: 20 minutes

Materials: 8 x11 inch plain white paper for each group of 4 students

A spray bottle filled with water

Different colored WATER SOLUBLE markers (not yellow)

Background:

A watershed is a geographic area in which water, sediments, and dissolved minerals all drain into a common body of water like a stream, creek, reservoir, or bay. A watershed includes the plants, animals, and people that live in it, as well as the non-living components like rocks and soil. We are all part of a watershed, and everything we do can affect the surface and groundwater that runs through this system.

Activity:

1. To create the watershed, ask students in a group to crumple a piece of paper up into a tight ball, then have them gently open up the paper, but don't flatten it out completely.
2. Have students choose one color marker and use it to mark the highest points on the map. These points are the mountains ridge lines.
3. Have students choose a second color and mark the places where different bodies of water might be found: creeks, rivers, lakes, etc.
4. With a third color, have students mark four or five places to represent human settlements: housing tracts, factories, shopping centers, office buildings, schools, etc.
5. Have students use the spray bottle to lightly spray the finished map. This spray represents rain falling into the watershed. Discuss any observations about how water travels through the system.

Discussion:

- What changes did you observe in the watershed?
- Where does most of the rain fall? What path does the water follow? Where does the rain end up?
- What types of materials might the water pick up as it moves through the watershed? Where do these materials come from? Where do you think these materials will end up?
- How can chemicals we use in our gardens have an effect on wildlife in the bay?
- What kinds of changes might we make at home or school to lessen the problem of pollution?

Maps

If possible have students look at topographic maps and trace the watershed flow for various mountain ranges. Use California Classroom maps to locate the various large rivers and trace their run off sites and flows. Locate lakes and bays on the map. Look for where we are on the map and where we will be getting on the Delta Education boat.

Take a walk

Take a walk around the school grounds to locate storm drains. Where do you think they flow? Locate various places on the campus where erosion on the land has occurred. Observe the flow pattern. Look off into the distance to our West and look at the hills and mountains in our area and guess the direction water would flow when a rain occurred.

Human Impact *(Whole group will do this activity on the boat as it travels to its study location.)*

Objective:

Students will see, on a watershed model, the direct result of various forms of human pollution and how it travels into our Delta.

Materials needed for this activity:

- Watershed model
- Spray bottle with clear water
- Small containers of:
 - Cocoa
 - Green Kool-Aid
 - Red Kool-Aid
 - Soy sauce
 - Dark brown potting soil

What to do:

1. Introduce the watershed model with students once again. Ask them if anyone remembers what a watershed is from their classroom activity? Point out the features of the model watershed such as stores, houses, farming areas, golf courses, new buildings, schools roads and the creek. Tell them this is a mini version of Pittsburgh
2. Can they locate where new building is occurring on our model? Explain that the trees, bushes and grasses have been removed from the area to make way for houses and all that is left is bare dirt. Have students create a bubble map in their journals of the different kinds of pollution due to human impact. First in the bubble is dirt due to construction. Sprinkle about 1 T of cocoa on to the construction area.
3. Can they locate the golf course on our model? In order to keep the grass very green fertilizers have to be spread on the grass. Add fertilizers to their bubble of pollutions. Sprinkle 1T of green Kool-Aid on the golf course.
4. Can anyone locate the various roads on our model? What is happening to the oil that leaks from cars and trucks traveling through town? Add car oil to their bubble of pollutions. Sprinkle 1T of soy sauce on the roads of the model.
5. How many of you have had problems with ants, bugs and insects getting into your house? Sometimes we call exterminators to come to our homes to spray pesticides to kill the ants and bugs and spiders around our homes. Add pesticides to your bubble of pollutions. Sprinkle red Kool-Aid around the houses on the model.
6. Locate the cow grazing land on our watershed model. Remind them of the many places in our town where you can see cows in the fields grazing. Where do these cows go to

the bathroom? They just go on the land and it is called manure. Add manure to your bubble list of pollutions. Sprinkle 1 T of dark potting soil on the cow grazing areas.

7. What can you predict will happen to all of these forms of pollution when the rains fall? Have them complete the prediction in their journals using a flow map. Where will these pollutions go? Have students complete the flow map.

8. When the fall comes we tend to get just a little bit of rainfall....sprinkle the model with just a few sprays of water. When wintertime comes we tend to get a lot of rain....spray the model with a lot of rain water and have them observe where all of the pollution goes. What they see is what happens to the human activities on land after a rainstorm. You can see that it picks up the soil, fertilizers, pesticides, manure, and car oil and then carries them down to the Delta. Is that what they predicted would happen?

9. In your journal answer these questions:

- First. How do you think construction workers could prevent so much soil running off down into the Delta? (Give them time to write a response) They could set up blocks and barriers to prevent the soil from eroding.
- Second. How do you prevent fertilizers and pesticides from running off into the Delta? (Give them time to write a response) You could read the directions on the packages carefully and make sure you apply just the right amount and not too much and never apply these in the winter time so that they have a chance to flow downstream.
- Third. How do you prevent oil from running off into the Delta? (Give them time to write a response) Make sure your car has been checked and does not have an oil leak and never pour oil down a storm drain.
- Finally. How do you prevent manure from running off into the Delta? (Give them time to write a response) If you are a farmer you make sure to keep the cattle fenced in and don't allow them to live near a stream or a creek or a river.

10. In closing have the students write a big X mark on the Neighborhood Illustration where they see pollution occurring. Discuss the illustration and their answers and check for understanding. Have them label the watershed in the illustration. Have them label start at the top of the hills and have them label Delta where it ends up.

11. These are all grown up things that cause pollution to our watershed. What kinds of things might kids be doing to impact the watershed? How many of you have been to Buchanan Park to swim or picnic? I went the other day and look what I found. Did you leave a chip bag? Did you leave a juice container? etc.. How could you prevent these from being in our watershed and flowing into the Delta?

Station A: Water Quality

Introduction

A sample of river water will be collected, and then students will use different instruments to measure the water's temperature, pH, conductivity, salinity, turbidity, and dissolved oxygen levels. The data will be used by students to answer a series of questions in their Journals – some easy, some harder – so they can ponder the meaning of this water quality information.

For example, one of the simple questions asks students to convert the water temperature, measured in degrees Celsius, into degrees Fahrenheit (a calculator will be provided). A bit harder question asks them to predict how the conductivity measurement would change, if we: a) dissolved some table salt into the water sample; or b) diluted the water sample with deionized water.

The water quality station will be supervised by a professor (and possibly some student helpers) from Los Medanos College. These people will engage the students with some impromptu discussion, including more inquiries about the relevance of the data. However, the deepest connections between the on-boat activity and the students' development of scientific concepts will occur if the students have a basic understanding of how temperature, pH, conductivity, salinity, turbidity, and dissolved oxygen affect water quality **BEFORE** the voyage, and then they return to this discussion in the classroom **AFTER** the voyage.

As residents of the Delta, these students will grow up in a politically-charged environment, and hear plenty of talk in years to come about how the Delta's salinity is rising, due in large part to massive exports of water for agriculture, urban use, etc. We hope the fact that they actually stood on a boat and measured the water's salinity, once upon a time, places them personally into the larger abstract debates about California water issues.

To assist teachers in providing this context, this Teacher's Guide contains several pages of detailed background information describing each water quality parameter and its significance. Of special importance are relationships **between** parameters; for example, the ability of water to dissolve oxygen decreases as the temperature rises. So, as just one example of a "take home" lesson, a student learns why higher temperatures in the summertime can be very stressful for some aquatic organisms, whereas cooler spring conditions can be very accommodating. And on the voyage, we will measure both these parameters, so the class gets a chance to see how some relatively simple procedures can gather important information about interacting variables, all of which can dramatically affect the Delta environment.

What the Teacher Should Do

Before the voyage, introduce the class to each of the water quality parameters, using information on the following pages as background (the class needs not understand all the details, just the basic concepts).

On the voyage – RELAX! – the college staff will organize the collection of data, and begin the process of connecting the data to what students have already learned.

After the voyage, revisit the science and significance of water quality, hopefully extending and connecting the lessons learned to other science (and possibly social science) topics you cover for the remainder of the year.

Is It Safe?

Why is turbidity bad?

Too much turbidity is bad for aquatic life.

Excessive turbidity:

- Interferes with sunlight penetration. And since sunlight is needed for photosynthesis to occur, increased turbidity means decreased photosynthesis, which means decreased oxygen production. And since fish need oxygen, the decrease in oxygen is not good.
- Clogs the gills of fish and shellfish. When their gills get clogged, fish die.
- Limits the distance that fish can see. This can be bad because the fish might have a hard time finding food. On the other hand this might be good, because it might make it harder for the fish to be seen by predators.
- Provides a place for harmful bacteria to live. The suspended particles in turbid water can provide breeding grounds for harmful microorganisms. Suspended particles can protect microorganisms from being disinfected when water is treated for drinking. They also can act as miniature sponges that can absorb and harbor toxins, such as insecticides or herbicides. For these reasons, drinking water should have as little turbidity as possible.

What level of turbidity is safe?

Water for human consumption

Use	Maximum Turbidity Level (NTU)
Drinking	.5 NTU
Cooking	1-5 NTU
Recreations	5 or less

Water for fish

Use	Maximum Turbidity Level (NTU)
Water to support trout	10 NTU
Water to support fish other than trout (like bass)	25 NTU

Water for industrial use

Use	Maximum Turbidity Level (NTU)
Beverage	1-2
Food products	10
Water used in boilers	1-20 (varies with type of boiler)
Making paper	5-25
Making rayon	1
Making cotton	25
Baking	10
Cooling	50
Ice making	0.5 (same as for drinking water)
Tanning leather	20

Is It Safe?

Dissolved Oxygen (DO)—What is it?

Oxygen that is dissolved in water is the same thing as the oxygen that is present in the air that humans breathe — but it is mixed up amidst water molecules. Just like the creatures that live on the land and require oxygen to breathe, fish also require oxygen for their respiratory processes.

Does DO create problems?

No, dissolved oxygen does not usually create problems. On the contrary, if there is not enough dissolved oxygen in the water, there will be problems for the creatures that live in the water.

How does oxygen get dissolved in water?

Oxygen that is dissolved in water comes from 2 processes: photosynthesis by plants, and the physical mixing of water.

Photosynthesis

Plants and algae (note, algae is not a plant) produce oxygen as part of the process of photosynthesis. When the sun shines on green plants, the plants take the energy from the sun and convert carbon dioxide and water into food (carbohydrates) and oxygen. Most of the oxygen produced by photosynthesis is created by the very small plants called phytoplankton.

Turbulence

Oxygen also dissolves in water when turbulence occurs; turbulence is the vigorous mixing of water and air. This mixing occurs in areas where water is traveling rapidly (like in a waterfall or in a fast moving stream).

What factors affect the level of oxygen in water?

The level of oxygen that is dissolved in water is influenced by (a) the amount of oxygen that the water can hold, and (b) the biochemical processes within the body of water.

How much (DO) can be dissolved in water?

The level of DO that the water can hold is a factor of the:

- water temperature,
- atmospheric pressure, and
- mineral content of the water.

Warm water holds less oxygen than cold water. This means that the same body of water when warm will have lower DO than cold water. Unfortunately, fish generally have a higher metabolic rate in warm water. So at the time when water can hold the least amount of oxygen, fish require a larger amount of oxygen.

Water at a lower elevation (higher atmospheric pressure) holds more DO than water at a higher elevation (lower atmospheric pressure).

Water that has a high mineral content (such as hard water and sea water) holds less oxygen than pure water.

Is It Safe?

What things use up the dissolved oxygen (DO) that is in water?

Organic Material

The organic content of the water will also affect the amount of DO that is present in the water. These materials create a biochemical oxygen demand, or BOD. The DO will decrease in water with a large amount of BOD because of the action of the bacteria in the water, as well as a result of some other biochemical processes.

Bacteria

Bacteria in the water break down organic materials (such as leaves and grass, sewage, and animal wastes) using a process that requires oxygen. This means that if a lot of organic wastes are introduced into a body of water, bacteria will break these down, and there will be a decline in the amount of DO available for higher life forms, such as fish.

Plant and Animal Respiration

As aquatic plants and animals grow and move around, they use up oxygen, just like humans do.



HydrOmania
Student Information Sheet

Wow, the fish really love you!

Yeah, 'cause I'm clear, clean and "cool"!

How much dissolved oxygen do fish need?

Designated Use	Lowest Acceptable DO Levels (mg/L)
<i>Aquatic Life</i>	
Warm water fish	5.0
Cold water fish	6.0
Spawning season	7.0
Salmon (adult during spawning and migration)	6.0
Salmon (juvenile)	10.0
Trout (adult brown)	9.0 to 12.0
Northern pike	6.0*/3.1**
Black bass	5.5*/4.7**
Yellow perch	4.2*/4.7**
Black bullhead	3.3*/1.1**

*Lowest DO level in mg/l at which fish survive for 24 hours (summer)

**Lowest DO level in mg/l at which fish survive for 48 hours (winter)

This heat wave is making me feel uncomfortable...seems like I can't breathe.

Is It Safe?

Why is the temperature of a body of water important?

Organisms that live or reproduce in the water are affected by water that is too hot. Some species of fish, such as native "cold-water" fish like salmon, bull trout, steelhead, and some amphibians (frogs and salamanders) have trouble reproducing and surviving in water which is too hot.

Temperature is important because it can affect the chemistry of the water. Warm water holds less oxygen than cold water, and some chemicals are more toxic to aquatic life at higher temperatures.

What temperature is cool enough?

As you can see from the table, different species thrive at different temperatures.

What things increase water temperature?

Human practices that can raise the temperature of water include removing vegetation along the stream (as in logging) and directly discharging heated water from manufacturing processes. Fortunately, these practices are rare in most parts of the country. Summer sun warms streams too.

Water Temperature and Fish Behavior

Species	Fish Won't Grow at Temp. higher than: °C (°F)	Maximum Temp. Fish will Survive °C (°F)	Preferred Temp. °C (°F)
Atlantic Salmon	20 (68)	23 (75)	
Bluegill	32 (90)	35 (95)	
Brook Trout	19 (66)	24 (75)	
Bull Trout			50 (122)
Carp		36 (97)	32 (90)
Coho Salmon	18 (64)	20 (68)	10 (50)
Lake Herring	17 (63)	25 (77)	
Large Mouth Bass	32 (90)	34 (93)	23.5 (74)
Northern Pike	28 (82)	30 (86)	
Rainbow trout	19 (66)	24 (75)	13 (55)
Small Mouth Bass	29 (84)		
Sockeye Salmon	18 (64)	22 (72)	15 (59)
White Sucker	28 (82)		
Yellow Perch	29 (84)	32 (89)	

Is It Safe?

What is pH?

pH is the measure of how acidic or basic the water is. Water that is neutral has a pH of 7. A pH that is lower than 7 is acidic. A pH that is higher than 7 is basic.

Does pH create problems?

It is not good for water to be too acidic or too basic. Rain that falls in areas with air pollution can become acidic; this rain is called acid rain. When acid rain falls into lakes or streams, the pH of the water body can be changed.

What are the acceptable pH levels?

The California Water Quality Control Board studied the effects of varying levels of pH on fish and aquatic life. Some of the results are presented in the table:

Acceptable pH Levels for Various Uses

Industrial Process	Minimum	pH Range
Food canning and freezing	7.5	--
Washing clothes	--	6.0-6.8
Rayon manufacturing	--	7.8-8.3
Steel making	--	6.8-7.0
Tanning leather	--	6.0-8.0

Effects of pH on fish and aquatic life

Limiting pH values		
Minimum	Maximum	Effects During Some Scientific Studies
3.8	10.0	Fish eggs could be hatched, but deformed young were often produced.
4.0	10.1	Limits for the most resistant fish species.
4.1	9.5	Range tolerated by trout.
4.3	--	Carp died in five days.
4.5	9.0	Trout eggs and larvae develop normally.
4.6	9.5	Limits for perch.
5.0	--	Limits for stickleback fish.
5.0	9.0	Tolerable range for most fish.
--	8.7	Upper limit for good fishing waters.
5.4	11.4	Fish avoided waters beyond these limits.
6.0	7.2	Optimum (best) range for fish eggs.
1.0	--	Mosquito larvae were destroyed at this pH value.
3.3	4.7	Mosquito larva lived within this range.
7.5	8.4	Best range for the growth of algae.

pH

The pH test is one of the most common analyses in water testing. An indication of the sample's acidity, pH is actually a measurement of the activity of hydrogen ions in the sample. pH measurements run on a scale from 0 to 14, with 7.0 considered neutral. Solutions with a pH below 7.0 are considered acids, those between 7.0 and 14.0 are designated bases (Fig. 3.2).

The pH scale is logarithmic, so every one-unit change in pH actually represents a ten-fold change in acidity. In other words, pH 6 is ten times more acidic than pH 7; pH 5 is one hundred times more acidic than pH 7.

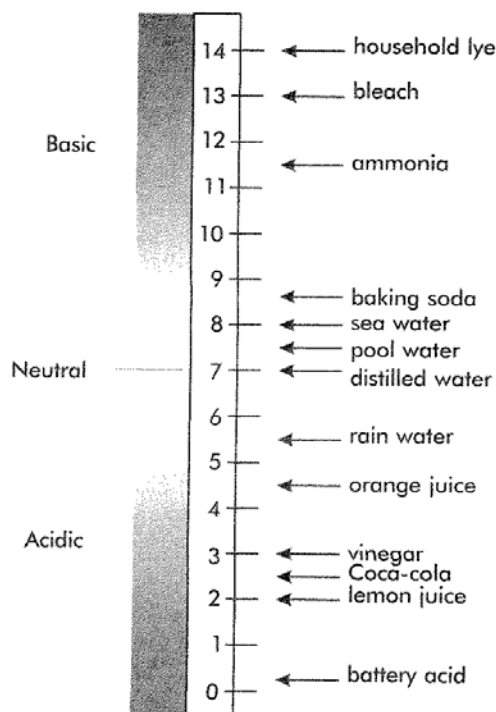


Figure 3.2 The approximate pH values of some common substances and natural water supplies.

SIGNIFICANT LEVELS

A range of pH 6.5 to pH 8.2 is optimal for most organisms (Fig. 3.3). Rapidly growing algae or SAV remove carbon dioxide (CO_2) from the water during photosynthesis. This can result in a significant increase in pH levels.

AT pH:	EFFECT ON AQUATIC LIFE:
3.0 - 3.5	Unlikely that fish can survive for more than a few hours in this range, although some plants and invertebrates can be found at pH levels this low.
3.5 - 4.0	Known to be lethal to salmonids.
4.0 - 4.5	All fish, most frogs, insects absent.
4.5 - 5.0	Mayfly and many other insects absent. Most fish eggs will not hatch.
5.0 - 5.5	Bottom-dwelling bacteria (decomposers) begin to die. Leaf litter and detritus begin to accumulate, locking up essential nutrients and interrupting chemical cycling. Plankton begin to disappear. Snails and clams absent. Mats of fungi begin to replace bacteria in the substrate. Metals (aluminum, lead) normally trapped in sediments are released into the acidified water in forms toxic to aquatic life.
6.0 - 6.5	Freshwater shrimp absent. Unlikely to be directly harmful to fish unless free carbon dioxide is high (in excess of 100 ppm).
6.5 - 8.2	Optimal for most organisms.
8.2 - 9.0	Unlikely to be directly harmful to fish, but indirect effects occur at this level due to chemical changes in the water (see next page).
9.0 - 10.5	Likely to be harmful to salmonids and perch if present for long periods.
10.5 - 11.0	Rapidly lethal to salmonids. Prolonged exposure is lethal to carp, perch.
11.0 - 11.5	Rapidly lethal to all species of fish.

Figure 3.3 Effects of pH levels on aquatic life

SALINITY

Salinity is the total of all salts dissolved in water, usually expressed as parts per thousand (ppt). In an estuary, the flow of fresh water from streams and rivers mixes with salty ocean water, producing a range of salinity from 0 to 35 ppt. The salt content of water affects the distribution of animal and plant species according to the amount of salinity they can tolerate.

MEASURING SALINITY

By Titration Of Chloride

Seawater contains a large, fairly constant quantity of chloride ions. By measuring the chloride concentration, salinity can be calculated using the following formula:

$$\text{ppt salinity} = (0.001805 \times \text{ppm chloride}) + 0.03$$

Add potassium chromate indicator to a carefully measured sample. This reagent produces a yellow color. Titrate the sample with a silver nitrate solution of a standard concentration. As the silver nitrate solution is added, silver reacts with chloride in the sample to form a white precipitate, silver chloride. When all the chloride has been precipitated, the next portion of silver nitrate added will form red-colored silver chromate, producing a pinkish-orange endpoint. Some test kits are designed to read directly as salinity by incorporating a conversion factor.

By Conductivity

The more salts dissolved in water, the better the water conducts electricity. Salinity can be determined by measuring electrical conductivity and correcting for the effect of temperature (Table 3.7).

By Specific Density

Objects float higher in salt water than in fresh water because salt water is more dense (heavier per unit of volume). Salinity may be calculated by measuring the specific gravity (sp gr) of a sample of water using an hydrometer, correcting for the effect of temperature and converting the readings to salinity by means of conversion tables.

SALINITY IN INLAND WATERS

In inland waters, the proportion of chloride to other salts is not as constant as in seawater due to the addition of material from groundwater and surface run-off. Although salinity methods described here are widely used, conversion factors for computing salinity for inland waters should be determined by experimentation for each body of water.

SIGNIFICANT LEVELS

Seawater	35 ppt
Brackish water	1 to 10 ppt
Fresh water	0 ppt

	Temperature							Salinity
	0°C	5°C	10°C	15°C	20°C	25°C	30°C	0/00, ppt
Conductivity Reading, micromhos	1,200	1,400	1,500	1,700	2,000	2,200	2,400	1
	2,220	2,500	2,900	3,300	3,700	4,100	4,500	2
	3,200	3,700	4,200	4,700	5,300	5,900	6,500	3
	4,100	4,700	5,400	6,100	6,900	7,600	8,400	4
	5,000	5,800	6,600	7,500	8,400	9,300	10,300	5
	5,900	6,800	7,900	8,800	9,900	11,000	12,100	6
	6,700	7,800	8,900	10,100	11,300	12,600	13,900	7
	7,600	8,800	10,100	11,400	12,800	14,200	15,700	8
	8,500	9,800	11,200	12,700	14,200	15,800	17,400	9
	9,300	10,800	12,300	13,900	15,600	17,300	19,100	10
	10,200	11,800	13,400	15,200	17,000	18,900	20,800	11
	11,000	12,800	14,500	16,400	18,900	20,400	22,500	12
	11,900	13,700	15,600	17,600	19,700	21,900	24,100	13
	12,600	14,600	16,700	18,900	21,100	23,400	25,800	14
	13,400	15,600	17,800	20,100	22,400	24,900	27,400	15
	14,200	16,400	18,800	21,200	23,800	26,400	29,100	16
	15,000	17,400	19,800	22,400	25,100	27,800	30,700	17
	15,800	18,300	20,900	23,600	26,400	29,300	32,300	18
	16,600	19,200	21,900	24,800	27,700	30,700	33,900	19
	17,400	20,100	23,000	25,900	29,000	32,200	35,500	20
	18,200	21,100	24,000	27,100	30,300	33,600	37,000	21
	19,000	22,000	25,100	28,300	31,600	35,000	38,600	22
	19,800	22,900	26,100	29,400	32,900	36,500	40,100	23
	20,600	23,800	27,100	30,600	34,200	37,900	41,700	24
	21,400	24,700	28,100	31,700	35,400	39,300	43,200	25

Table 3.7 Table for converting conductivity into salinity

Station B: Navigation

1. Students will have the opportunity to visit the wheelhouse of the research vessel 'Island Serenade' where they will be introduced to the navigational instruments and safety equipment by the Captain.

OBJECTIVE

Students will learn the importance of:

- Marine VHF Radios
- Engine Gauges
- Engine Controls
- GPS/Chart Plotter
- Depth Finder
- Radar
- Weather Station
- Compass
- Horn

2. Students will participate in a navigational "Time = Speed x Distance" exercise.

OBJECTIVE

Students will calculate the Time of travel to the research station when given Speed and Distance information:

- The Speed that a boat travels is measured in 'Knots', 1Knot = 1.15 MPH
- The Distance that a boat travels is measured in 'Nautical Miles', 1 Nautical Mile = 1.15 Statute Miles

3. Students will participate in a Charting Exercise utilizing Nautical Charts and GPS/Chart Plotter.

OBJECTIVE

Students will locate the "Position" (Latitude/Longitude), of the research stations and compare those against the vessel's charting instrumentation utilizing:

- Nautical charts

Using the charts, students will find navigational information of their current position.

- Name of waterway
- Name of nearby Islands
- Navigational Hazards
- Channel Markers
- Water Depth

Station C: Benthic Grab & Plankton Net

A SURVEY OF PLANKTON COMMUNITIES

Problem: *How many different plankton communities are found in bodies of water in the Delta? Is the Delta healthy?*

Introduction The boat has a plankton net that it drags alongside to catch all the small organisms that live in the Delta. The catch is then put under the microscope and captured on a closed circuit TV screen. The students' job is to draw each type of plankton they see and count how many. This exercise will help students understand what lives in the Delta and how healthy it is.

Background Plankton are any of a large variety of organisms that *drift on or near the surface of water*. Plankton that are able to undergo photosynthesis and other plantlike functions are called *phytoplankton*. Many kinds of phytoplankton are algae. Plankton that do not undergo photosynthesis and act as consumers in the ecosystem are called *zooplankton*. Many ocean zooplankton are small larval animals.

Students should also understand the following terms before you start this investigation.

Plankton phytoplankton zooplankton community ecosystem

Concepts The health of an ecological community is often reflected in the diversity of the community, or the number of different species it contains. When certain kinds of stresses affect an ecosystem, some organisms sensitive to those stresses may not survive. Community diversity is thereby reduced. This reduction in diversity, in turn, may reduce the stability of the community. This further diminishes its ability to survive and adapt to future stresses.

What to expect. Students will be asked to identify with their key the plankton on the screen. Then they will be asked to draw different kinds and try to count them. This will give them information about what lives in the Delta and how rich and diverse it is. If we don't find a lot of different organisms maybe the Delta is stressed out. We never know what we will find.

BENTHIC GRAB

The boat will stop at a specific place and dredge up a sample from the *bottom layer* of the Delta. Students will use posters on the walls and picture sheets to identify what is brought up. There are special viewers to pass around for everyone to see. Counting and drawing are very important here. We will try to identify as much as we can but we have been known to bring up things we haven't seen before!

Station D: Food Chain ~ Delta Energy Pyramid & Biomagnification

Objective:

Students will participate in a demonstration on how energy from the sun flows through trophic levels to themselves, and how toxins can accumulate through the process of biomagnification.

Materials:

- 300 orange bb's
- 300 green bb's
- 30 steel bb's
- 8-10 magnets (for a group of 8-10 students)

Life Sciences – Science Content Standard 4th Grade

All organisms need energy and matter to live and grow. As a basis for understanding this concept:

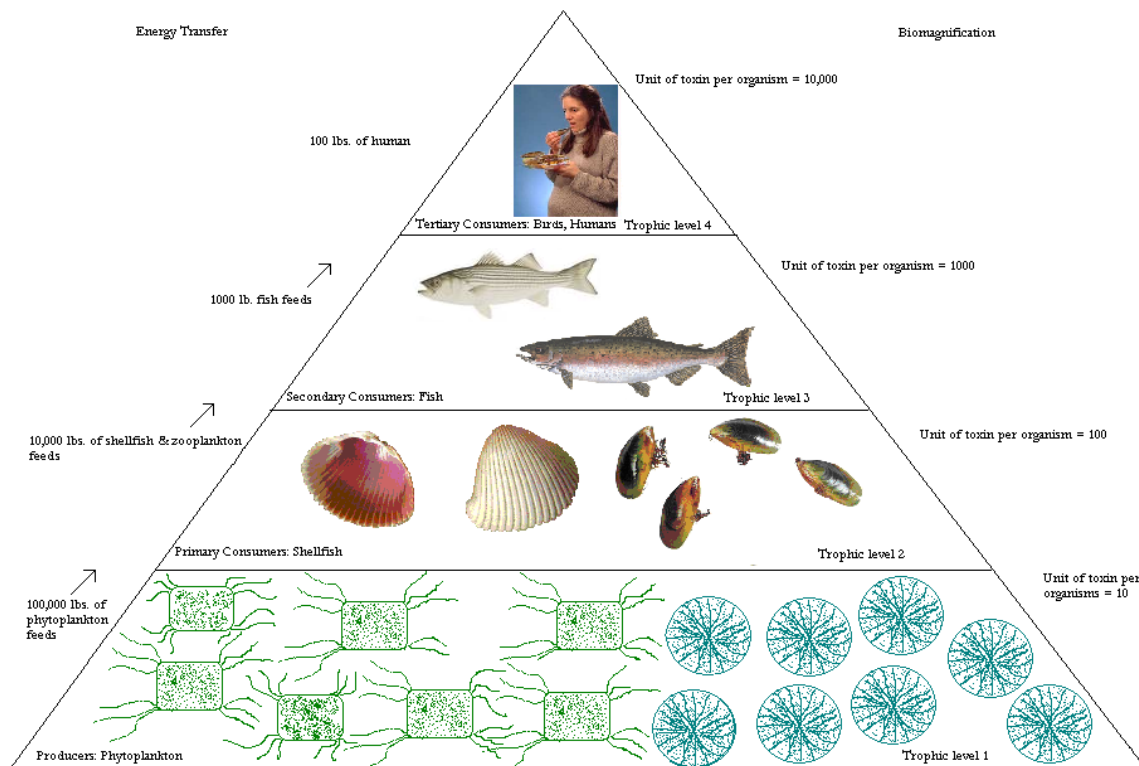
- a. Students know plants are the primary source of matter and energy entering most food chains.
- b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.

Background:

The source of energy for humans and most organisms on earth is the sun.

- Photosynthetic organisms, such as plants or phytoplankton, are called producers. They take energy from the sun and produce sugar to store the sun's energy and make up the first trophic level.
- Organisms that eat plants, plankton, or other producers are called primary consumers or herbivores, and make up the second trophic level. Primary consumers get their share of the sun's energy when they eat the sugars made in the producer.
- Organisms that eat meat from other animals or primary consumers are called secondary consumers and make up the third trophic level.
- Finally, organisms that eat secondary consumers are called tertiary consumers, and each level gets their share of the sun's energy as they eat from the trophic level below.

The example below shows a human who gets her energy from a fish. The fish can get its energy from the siphon of shellfish. The shellfish get their energy from filtering phytoplankton out of the water and the phytoplankton get their energy from the sun.



Only 10 percent of the energy from the trophic level below becomes part of the organism in the next trophic level because 90 percent is used up for life processes. For example, a one pound (lb.) fish would require 10 lbs of shellfish meat because it would use up 9 lbs. of the shellfish meat for energy to swim and live, and only one lb of the shellfish would actually get turned into fish meat. The organism at the top of the pyramid then requires the most energy to live and because of this it eats the most food.

If the food is polluted with toxins like heavy metal, such as mercury, from factories or pesticides from farming/gardening, it gets concentrated on its way up the food chain. If one pound of plankton eats 10 units of toxin and one lb. of shellfish needs to eat 10 lbs. of plankton to survive, then the shellfish end up eating 10 X 10 or 100 units of toxin. A one pound fish would eat 10 lbs. of shellfish which would have 10 x 100 or 1000 units of heavy metal. A 100 lb human would need to eat 1000 lbs. of fish which would have 1000 x 1000 or 1,000,000 units of heavy metal.

Procedure:

Warm up: Prior to the trip students would benefit from a basic concept of photosynthesis and a review of multiplication of 10's.

Activity:

Students are shown the Delta energy pyramid. Explain the concept of how energy from the sun passes through the trophic levels and how energy is lost as it moves from one level to the next.

Then

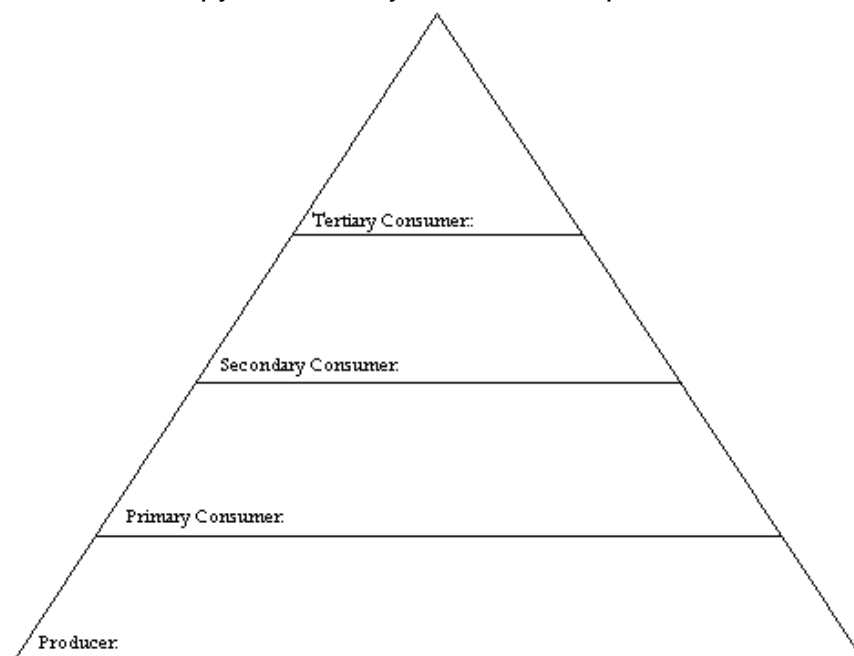
- one student will get the pregnancy pillow.
- 2 students will each get a fish puppet
- 5-6 students will each get a clam or mussel puppet.

- The Clams and mussels are instructed to “eat” with their puppets 2 phytoplankton sacks and are asked to record what color sacks they ate.
- For the sake of the demonstration the fish will each eat 3 entire shellfish and record how many sacks of each color were in the shellfish they ate.
- The student who is the designated mom will collect both fish and stuff it in her belly pillow and take it to the table for analysis.
- The number of each colored phytoplankton will be counted and the amount of food the mother ate will be discussed noting that she did not eat 1000 lbs. of fish for this demonstration.
- Then students will then each be given a magnet and be asked to put them next to the phytoplankton to attract the metal bb's.
- Take one of the extra orange, green, and metal bb's and put them in a small container of water while the students are watching but then cover this container until the end of biomagnifications talk.
- Discuss that each plankton had 50 bb's and 5 of them were metal representing heavy metal poison. Ask if they can figure out how much ended up in the mother and her baby.
- Discuss how much poison would end up in the tertiary consumer due to biomagnification.
- Then show the students how the orange bb's actually dissolved like food might but that the green and metal bb's didn't and stayed in the cup unaffected.
- With the time left discuss plastics in the ocean and their impact on sea turtles on up the food chain.

Wrap up:

Assessment:

Fill in this food pyramid with your own examples of animals.



1. What difference did it make what color sacks the clams, mussels and fish “ate” ?
2. What did the magnet show about what was also in the phytoplankton sacks?
3. How much poison ended up in the tertiary consumer due to biomagnification
4. How do toxins from pesticides end up getting all the way from the Delta then to your dinner plate?
5. There are fish that eat other fish and are tertiary consumers. Why might a pound of fish from a big tertiary consumer fish like tuna have more mercury in it than a pound of fish from a smaller fish like tilapia that can eat mostly from the first two trophic levels.
6. When you finish your turn at the watershed section, explain what you can do to minimize what toxins get biomagnified.

What are Invasive Species?

U.S. Fish & Wildlife Service

Invasive species are organisms that are introduced into a non-native ecosystem and which cause, or are likely to cause, harm to the economy, environment or human health. It is important to note that when we talk about a species being invasive, we are talking about environmental boundaries, not political ones. In addition to the many invasive species from outside the U.S., there are many species from within the U.S. that are invasive in other parts of the country.

The U.S. Fish and Wildlife Service is the only agency of the U.S. Government whose primary responsibility is the conservation of the nation's fish, wildlife, and plants. Because of our responsibilities, the Service is very concerned about the impacts that invasive species are having across the Nation. Invasive plants and animals have many impacts on fish and wildlife resources. Invasive species degrade, change or displace native habitats and compete with our native wildlife and are thus harmful to our fish, wildlife and plant resources.

Invasive Species in California

California Department of Fish & Game

WHAT ARE INVASIVE SPECIES AND WHY ARE THEY A PROBLEM?

Californians have benefited from the introduction of plant and animal species necessary for food or other human pursuits; however, there are many other introduced species that can wreak havoc on the state's environment and economy. Those species that cause harm and once established, spread quickly from their point of introduction are often called "invasive."

Invasive species threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat. Through their impacts on natural ecosystems, agricultural and other developed lands, water delivery and flood protection systems, invasive species may also negatively affect human health and/or the economy. Examples of direct impact to human activities include the clogging of navigable waterways and water delivery systems, weakening flood control structures, damaging crops, introducing diseases to animals that are raised or harvested commercially, and diminishing sportfish populations.

A large population of an invasive species can start from a very small number of individuals, and those individuals can be difficult to see, so they may easily go unnoticed. The tiny young of invasive shellfish or insects, a fragment of an aquatic weed or a single plant ready to release its seeds can be enough to start off a population that will ultimately become a multimillion dollar headache for the state. However these populations do not grow from a few individuals to damaging levels overnight, and if populations are detected early enough, there is a good likelihood that they can be eliminated before they cause damage and huge

population control costs. Early detection and rapid response are the most effective and cost efficient responses to invasive species, after prevention.

HOW DID THEY GET HERE?

Relatively few non-native species were introduced to California prior to its settlement by Spaniards that began in the 1700's. With the beginning of European settlement, non-native species were carried to California attached to the hulls of ships, submerged in the ships' ballast, or carried along in shipments of grain.

Today, there are many different ways in which non-native invasive species are introduced to the State. Commercial shipping remains a major source of unintentional introductions, along with smaller commercial fishing boats and recreational watercraft. People traveling between natural areas, farms or waterways for work or recreation unintentionally spread invasive species on their vehicles, boats, equipment and even clothing.

Both historically and today, non-native invasive species have also been introduced purposely, without an understanding of the potential consequences of those introductions. This occurs most commonly with plants used for erosion control, livestock forage, and aquarium or garden ornamentals. Some of the animals that in the past were or are currently brought into California as sources of food, fur or pets have turned into major pests.

WHAT DOES THE INVASIVE SPECIES PROGRAM DO?

The mission of the Invasive Species Program is to reduce the negative effects of non-native invasive species on the wildlands and waterways of California. We are involved in efforts to prevent the introduction of these species into the state, detect and respond to introductions when they occur, and prevent the spread of non-native invasive species that have become established. Our projects address problems with introduced animals, plants and microbes, both terrestrial and aquatic. More fundamentally, we try to address the ways by which the species are introduced, typically inadvertently, by human activities. Studies show that preventing introductions is the most effective and cost efficient way to respond to the problem of invasive species. We conduct our work in coordination with other government agencies and non-governmental organizations.

WHAT ARE AQUATIC NUISANCE SPECIES? (U.S. FISH & WILDLIFE SERVICE)

Aquatic nuisance species (ANS) (sometimes called exotic, invasive, nonindigenous or non-native) are organisms that invade ecosystems beyond their natural, historic range. Their presence may harm native ecosystems or commercial, agricultural, or recreational activities dependent on these ecosystems. They may even harm our health.

People have helped spread species around the globe for centuries either intentionally or unintentionally. **Intentional introductions** involve the deliberate transfer of nuisance species into a new environment. An example of this would be someone who dumps the contents of their home aquarium into a lake. **Unintentional introductions** occur when invasives are transferred accidentally. For instance, zebra mussels can be spread when ballast water used for ship stability is exchanged.

In fact, nuisance species can be spread many ways including ships, boats, barges, aquaculture, agriculture, nurseries, or connected waterways. Through these and other means, thousands of terrestrial and aquatic invasive species have been introduced into our country, costing us billions annually.

Examples of aquatic nuisance species include:

- zebra mussels,
- Chinese mitten crabs,
- hydrilla,
- Eurasian watermilfoil,
- nutria,
- sea lamprey,
- Asian carp, and
- New Zealand mudsnail.

Some of these organisms seem to have little impact while others are devastating. Here are two examples of harmful species:

Zebra mussels

Brought here from Europe in ships' ballast water; zebra mussels were first discovered in the Great Lakes region in 1988. Zebra mussels have inflicted tremendous damage to native ecosystems and to facilities using water, like power plants and municipal water suppliers. Millions of dollars have been spent by water users, to control and eradicate zebra mussels. And, as zebra mussel populations in an area increase, native mussels decrease; a strong indication that zebra mussels are the cause.

European green crab

These crabs invaded eastern North America in the early 1800s and were discovered in California around 1990. Green crabs probably entered the east by boats and the west in packing material of bait shipments. Females can produce an impressive 200,000 eggs annually. The European green crab eats such things as mussels, clams, snails, worms, and even other crustaceans. This diet has hurt New England's soft shell clam industry. And, because they compete for the same food sources, they could damage commercially important Dungeness crab, oyster, and clam fisheries on the west coast.



Zebra Mussel



New Zealand Mudsnails

Glossary of Terms

Accumulate: to collect or obtain a large amount of something over a period of time

Acid rain: Rain or other precipitation that has a pH lower than the natural range of ~5.2 to 5.6; may be caused by an excessive concentration of sulfuric or nitric acids, as a result of chemical pollution of the atmosphere from such sources as automobile exhaust and the industrial burning of oil and coal.

Alkaline: Acid neutralizing or buffering capacity of water; a measure of the ability of water to resist changes in pH caused by the addition of acids or bases and therefore, the main indicator of susceptibility to acid rain; in natural waters it is due primarily to the presence of bicarbonates, carbonates and to a much lesser extent borates, silicates and phosphates.

Base: a substance which has a pH greater than 7 on a scale of 0-14; also referred to as an alkaline substance.

Basic: Having a pH value greater than 7.0.

Buffer: A substance which tends to keep pH levels fairly constant when acids or bases are added.

Benthic: of or relating to or happening on the **bottom** of a body of water

Biomagnification: the accumulation of a harmful substance such as a radioactive element, a heavy metal, or an organochlorine pesticide in an organism, especially an organism that forms part of the food chain

Community: an ecological unit composed of a group of organisms or a population of different species occupying a particular area, usually interacting with each other and their environment.

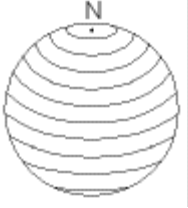
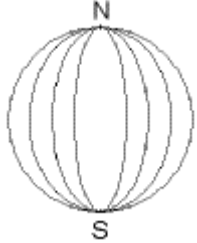
Conductivity: measures water's ability to conduct an electric current and is directly related to the total dissolved salts (ions) in the water. Called EC for electrical conductivity and is reported as uS/cm (microsiemens per centimeter).

Concentrated: when a substance is concentrated, it accumulates or builds up, and when more and more builds up its effect can be stronger

Ecosystem: a system that includes all living organisms in an area as well as its physical environment functioning together as a unit.

Food web: a community of organisms where there are sources of food that are eaten by species that are not related so they create many food chains that depend on the same food source. If one source of food is gone then the whole network of plants and animals collapse. **Invasive** plants are species that show a tendency to spread out of control. It is thought that the tendency of invasive plants to spread so much may be due in part to the fact that the insects and diseases that plague them in their native lands are often absent in their new homes, where the invasive plants thus enjoy "free rein."

Ion: An atom or group of atoms that carries a positive or negative electric charge as a result of having lost or gained one or more electrons.

Definition of Latitude	Definition of Longitude
<p>The angular distance between an imaginary line around a heavenly body parallel to its equator and the equator itself</p>  <p>Lines of latitude</p>	<p>The angular distance between a point on any meridian and the prime meridian at Greenwich England</p>  <p>Longitude lines or "meridians"</p>

Micromohs/cm: Electromagnetic unit of conductance. Equal to $\mu\text{S/cm}$ (microsiemens).

Microsiemens/cm: Electromagnetic unit of conductance. One siemen is the conductance at which a potential of one volt forces a current of one ampere. (Named for Karl Wilhem *Siemens*.). One microsiemens is one one-millionth of a siemen.

Millisiemens/cm: Electromagnetic unit of conductance. One siemen is the conductance at which a potential of one forces a current of one ampere. (Named for Karl Wilhem *Siemens*.). One millisiemens is one one-thousandth of a siemen.

Neutral: Describing a substance that is neither acid nor alkaline.

NTUs: The units of turbidity from a calibrated nephelometer are called Nephelometric Turbidity Units (**NTU**). To some extent, how much light reflects for a given amount of particulates is dependent upon properties of the particles like their shape, color, and reflectivity.

Plankton: includes many microscopic animals and plants including algae, various animal larvae and worms. The animals are **zooplankton** and the plants are **phytoplankton**. These are small, microscopic organisms which drift with the currents in seas and lakes.

Photosynthesis: the process a plant uses to combine sunlight, water, and carbon dioxide to produce oxygen and sugar (energy).

Phytoplankton: Plankton that are able to undergo photosynthesis and other plantlike functions.

Pollutant: Something which contaminates.

Salinity: The amount of dissolved salts in any solution.

Salt: An ionic compound that can form from the neutralization of an acid with a base.

Secchi disk: A disk with a 4-6 inch radius that is divided into 4 equal quadrates of alternating black and white colors. It is lowered into a section of shaded water until it can no longer be seen and then lifted back up until it can be seen once again. Averaging the two depths gives you the clarity of the water.

Snert: Acid snow.

Statute Mile: A legal or formal name for a land mile.

Suspended solids: Very small particles which remain distributed throughout the water column due to turbulent mixing exceeding gravitational sinking; also see turbidity.

Total dissolved solids (TDS): The amount of dissolved salts in any solution. The amount of dissolved substances, such as salts or minerals, in water remaining after evaporating the water and weighing the residue.

Toxin: a substance that accumulates and causes harm in the body

Trophic level: a stage in a food chain that reflects the number of times energy has been transferred through feeding, e.g. when plants are eaten by animals that are in turn eaten by predators. Plants and plant-eating animals occupy the first two levels, followed by carnivores, usually to a maximum of six levels.

Turbidity: Degree to which light is blocked because water is muddy or cloudy.

Unit: a single person, thing, or group, usually regarded as a whole part of something larger

Zooplankton: Plankton that do not undergo photosynthesis and act as consumers in the ecosystem.

Sources: HydOmania; Biology Online; Excerpted and Adapted from Encarta Dictionary: English (North America)

KIDS for the BAY

Watershed Action Program

City of Pittsburg

Final Report – July 2010

KIDS for the BAY (KftB) successfully provided the Watershed Action Program to sixteen third, fourth, and fifth grade classes throughout Contra Costa County in the 2009-10 school year, reaching 426 students and sixteen teachers. The program is now complete and we are pleased to report that teachers, students and families learned about their local watershed and were inspired to take action to improve the health of their watershed in their local communities.

In the City of Pittsburg, two teachers and fifty-two students participated in the Watershed Action Program (WAP) this school year. Heather Asselin's third grade class at Highlands Elementary School and Ginny Isaacson's third grade class at Stoneman Elementary School completed five classroom lessons, a service learning action project and a field trip to explore the delta shoreline at the Antioch Marina.

In this report you will find highlights from the final classroom lessons, action projects and field trip through written descriptions, quotes from teacher, student and family participants, photographs, samples of student work and teacher evaluations. This report also gives highlights from the Watershed Action Follow-Up Program for teachers who completed their second year of the program, and an overview of the Academic Credit Program. Please refer to the February 2010 Progress Report for details on the classroom lessons completed earlier this year.

Classroom Lesson Highlights

Highlights from Lessons One through Three were submitted in the February 2010 Progress Report.

Bay Organism Investigation

In Lesson Four of the WAP, students investigated real organisms from two bay food chains, including seaweed, Dungeness crabs and striped bass. The classes were engaged during the investigation, and discovered many new things. "Wow, I have a boy crab because it has a triangle-shaped tail. That is cool! I didn't know that before," commented a student named Juwan from Highlands Elementary. Oscar, a student at Stoneman Elementary, shared, "I learned that there is a little animal called a barnacle that lives on a crab." Students were also creative in the adjectives they used to describe the seaweed. "I think my seaweed looks like nopales," explained another student, Jacqueline. Nopal is a cactus, a typical food in Mexican cuisine. After the activity, Ms. Asselin shared, "This was a great lesson. You could tell the students were very engaged while investigating the striped bass and Dungeness crab."

Water Conservation

During the fourth classroom lesson students also learned about the importance of conserving fresh water and came up with many different ways to do so at home and at school. "Sometimes if I don't drink all the water from my water bottle, I will use it to water our plants," said one

student, Alison. Another student, Jesus, commented “My dad always fills up part of the sink with water and then a plug to do the dishes. Then he isn’t letting the water run all the time.” Ms. Isaacson shared that one way she conserves water at home is by not flushing the toilet all the time. Students were surprised to learn that there is so little fresh water in the world compared to salt water. One student, Ikuna, asked, “If we have so little water for us to drink, do we have enough for the animals also?” KftB Instructor Deborah Zierten assured Ikuna that there is enough fresh water for all the living things as long as we conserve the available fresh water and keep it clean.

Environmental Justice

Environmental justice is an important concept covered in the WAP. In Lesson Five, students drew representations of a healthy and unhealthy environment, and were asked to share which environmental factors made their own neighborhood healthy or unhealthy. Many students in Ms. Asselin’s class commented that they live in unhealthy neighborhoods because of all the trash they see on the ground. “I don’t throw garbage on the ground, but when people hang out around my house on the street they always leave garbage. It makes me mad that they are making my home unhealthy,” commented a student named Zion. Ms. Asselin then added that even if her class is not responsible for putting the garbage on the ground it is still important that they pick it up just as they did during the neighborhood clean-up in the second lesson. In Ms. Isaacson’s class, students were surprised to learn that there are factories not too far from their school and that they cause a lot of pollution. When asked what they would do if they lived in a neighborhood with a factory or refinery, one student, Jakari, commented, “I would tell the owners of the factory to stop polluting my air.” Another student, Ariana, added, “I would write letters to the people at the factory so they shut it down so it no longer is polluting my neighborhood.”

After discussing healthy and unhealthy environments, the students learned about the environmental justice movement by reading handouts on different local, national and international environmental justice leaders. The classes focused on two environmental justice leaders, Henry Clark and Kory Johnson. They were surprised to learn that Kory Johnson was their age when she started protecting her environment. “Wow, she is the same age as us!” exclaimed a student, Angel. “We could be environmental justice leaders also because we helped clean up our school neighborhood,” he added. Students were empowered to make changes in their local environment after reading about others who are also making positive changes to improve their communities.

Action Project Highlights

Action projects are an integral component of the Watershed Action Program, and provide students the important opportunity to 1) use the knowledge they have gained during the program and 2) take action and educate others on how to help their local watershed. KftB Instructors work with teachers and students to choose action projects, which help ensure that students take ownership of their work and that projects are appropriate for the school’s location and the community’s environmental needs.

Safe Bay Food Consumption Presentation

Ms. Asselin's class at Highlands Elementary chose to conduct a Safe Bay Food Consumption Presentation for their action project. Many of the school families fish and eat seafood from the San Francisco Bay and delta, so the students wanted to pass on important information about pollution in the water and safe fishing and cooking practices.

The project took place in two parts. First, Ms. Zierten led the Safe Bay Food Consumption Presentation for the students in the class. The presentation gave an overview of pollution in the San Francisco Bay and delta with a focus on pesticides and mercury, pollution's effects on animals and humans through the food chain, and ways to avoid pollution-related illness by safely fishing and cooking fish caught in the San Francisco Bay and delta. Students then broke into groups and each group prepared a section of the presentation. The class practiced the presentation over the following weeks, and gave the Safe Bay Fishing and Cooking Presentation, including a sample of safely steamed striped bass topped off with a tasty sauce, to an audience of peers, school staff and families.

Ms. Asselin's students did an amazing job presenting all the material to their audience. For example, one group used the San Francisco Bay satellite map to show the location of Pittsburg and teach the audience about the bay. "This is a map of the San Francisco Bay. It is an estuary and there is fresh water and salt water in the bay," explained a student, Olivia. At the end of the presentation, the students reflected on what they learned by conducting this activity. "I learned what can happen to people if they have too much pesticides in them," commented a student named Luis. "I learned how to cook a fish safely. I didn't know how to do that before," said another student, Oscar. "I learned that pollution can enter all of your organs and even your brain," commented a student, Malik. All of the students agreed that they really enjoyed cooking the fish and teaching their families about staying healthy and helping the environment.

Classroom Display

Ms. Isaacson's class at Stoneman Elementary created a bulletin board display in their classroom of what they learned in the WAP. Ms. Isaacson put up informational posters the students created with messages about protecting the environment, displayed the field trip journals the students completed and had the students' science journals on their desks for parents to look through during the school Open House event. Ms. Isaacson also plans to have the students write persuasive letters to city officials asking them to label the storm drains in their neighborhood so the public can see that anything that goes down the storm drain, including garbage, leads directly to their local creek and into their watershed.

Field Trip Highlights

The field trips are an important culminating component to the Watershed Action Program. After students have learned about their local watershed, they visit a creek, bay or delta habitat that is close to the school community. This helps students understand that the waterways in their local watershed are close by and linked to their own school and homes. Each field trip is tailored to

meet the needs of the class and location, and provides an opportunity for students to explore and appreciate nature.

Using scientific equipment, students investigate and identify aquatic invertebrates and study native plants, birds and other wildlife. Students also use specifically designed field journals to record their observations and reflections.

Antioch Marina

Ms. Asselin's class from Highlands Elementary took a field trip to the Antioch Marina to investigate the delta shoreline. The students were really excited to be at the Antioch Marina and see part of the bay. After learning about the geography of the bay in the classroom lessons, one student, Luis, was able to tell his peers, "We are at the delta, next to the Antioch Bridge." The students walked onto the pier and were able to see the Antioch Bridge, windmills, which the students pointed out produce energy, and numerous birds.

One highlight of the field trip was using microscopes to observe and identify plankton living in the delta water. Since they learned the important roles plankton play in bay food chains, the students were thrilled to see real plankton. "Wow, I see the plankton, and some look like a long chain," exclaimed one student, Bobby, after peering through the microscope for the first time. "My plankton look more like eggs because they are round," commented another student, Olivia. The parent chaperones were also excited to observe plankton and were eager to take their turns looking through the microscopes. "I want to stay here and help out with this activity. I have never seen plankton before," commented Kalani's father, one of the parent volunteers.

Another highlight activity for the students was picking up garbage around the marina. Ms. Asselin's class learned the importance of keeping their watershed clean through the WAP classroom lessons. Many students picked up trash right at the edge of the water and were happy they prevented the debris from entering the delta. Another student, Bryan, collected a plastic bag that was tangled in the bushes. "It's a good thing I got that bag so it doesn't get into the bay and ocean where a sea turtle could eat it," Bryan explained. He remembered from the WAP classroom lessons that sea turtles often mistake plastic bags for jelly fish and was excited that he was able to pick it up. For 30 minutes students eagerly conducted their trash clean-up all over the marina and in the end filled up three garbage bags. "I am glad we picked up all the garbage," commented one student, Wendy. "We definitely helped the animals that live here so their home is cleaner."

Due to problems securing a bus and getting district approval to leave campus, Ms. Isaacson's class at Stoneman Elementary conducted a modified field trip inside the classroom. The students divided into two groups, and one group observed and identified plankton under microscopes while the second group conducted water quality tests of bay water that was collected that morning from the Berkeley Marina. When KfTB Instructor Deborah Zierten was reviewing plankton with the students, she asked if they were at the top or the bottom of the food chain. "Plankton is at the bottom of the food chain!" exclaimed one student, Anthony. "It is eaten by anchovies and clams and other animals in the bay," commented another student, Lala. The students were excited to see real plankton after learning about their importance in bay food

chains. Ms. Isaacson set up a more powerful microscope in the classroom in addition to the microscopes that KftB provides, which allowed the students to see the plankton with a higher magnification. "I saw a medusa plankton," said one student, Kierra. "Jorge and I saw plankton that looked like shrimp," commented another student, Arshdeep.

While half of the class was looking at plankton, the other half of the students tested the pH, temperature, turbidity and salinity of San Francisco Bay water. While discussing salinity and the salinity test results, Ms. Zierten showed the students on the San Francisco satellite maps where she collected the sample water that morning. She asked the students if they thought the bay water would have a high salinity content or low salinity content. "I think it will have a lot of salt in it because it is close to the ocean, which is salt water," explained one student, Nakaia. During the water quality tests, students shared that they felt like real scientists because they were using chemicals and performing real science experiments.

After the whole class completed both activities, Ms. Zierten asked the students if they wanted to share anything about their in-class field trip. Most of the students had never seen plankton before so they were curious about them. One student, Erl, asked, "Since plankton are so small and we can't see them just with our eyes, are fish able to see them so they know to eat them?" Another student, Angel, asked, "Do plankton have hearts that pump blood like we do?" Ms. Zierten and Ms. Isaacson were delighted that the class was eager to learn more about plankton, and discussed with the students how they could find answers to their thoughtful questions. Ms. Isaacson was also pleased that the students were still able to conduct field trip activities even though they did not leave campus. "It was great that the students were able to see real plankton and use microscopes since they often don't get any science in the classroom," commented Ms. Isaacson.

Follow-Up Program

Ms. Cullar and Ms. Licht at Highlands Elementary received training on the Watershed Action Program in their classrooms during the 2008-09 school year. During their second year of participation in the program, the teachers received an equipment kit and support from Ms. Zierten to continue teaching the program to their new classes of students. Ms. Cullar and Ms. Licht taught all five classroom lessons to their students. Ms. Licht shared that all her students completed the watershed pollution interview. One student asked his mother the difference between a storm drain and a sewer. His mother answered that one was inside and one was outside. The student then asked if there were any other differences and she said no. He was then able to explain to his mother that storm drains bring water directly to the local creek and bay without being cleaned, while the sewer takes waste water to a treatment facility first. During their neighborhood clean-up and pollution survey, Ms. Cullar's class picked up four pounds of trash at the park across the street from the school where Kirker Creek flows.

For their action projects, both Ms. Cullar's and Ms. Licht's classes created informational posters and advertisements about protecting the watershed and bay, which the teachers displayed in the hallway for other students and staff to see. Students in Ms. Licht's class also used their posters and advertisements to give a presentation to another classroom about protecting the bay and their local environment. "The WAP has reminded me of how rich teaching science can be and how students learn better when they are excited and when things are hands-on," shared Ms. Licht. Ms.

Cullar added, "Having the KftB Instructor follow-up with us in future years is helpful. It was so nice having extra equipment, like the bay animals, delivered to the site." Both teachers said the program easily tied the activities and lessons into the science and social science standards for third grade. Ms. Cullar was also able to incorporate the activities into teaching about the economy, and Ms. Licht added writing activities to connect the WAP to language arts.

Academic Credit Program

This year two teachers in Contra Costa County participated in our Academic Credit Program, through a partnership between KIDS for the BAY and California State University East Bay (CSUEB). Heather Asselin from Highlands Elementary completed an extra lesson and written assignments in order to receive four units of professional level academic credit. Ms. Asselin shared, "Participating in the Academic Credit Program provided an opportunity for me to become involved throughout the KftB program and helped with making me accountable. My participation was crucial for implementing the program next year while also receiving professional academic credits."

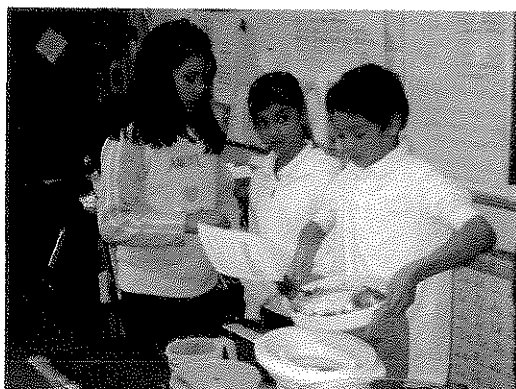
After participating in the WAP, Ms. Asselin observed that her students were more aware of the overall human impact on their environment, from pollution in the local creek and watershed to the harmful effects of commonly used pesticides. She has noticed that her students pick up garbage around their school and tell their families about things they can do to protect the animals and plants in the bay. Many parents have commented to Ms. Asselin that their child has shared with them the impacts of pollution and they are currently making changes at home. Some families are now recycling more and no longer using pesticides. Other families are properly disposing of chemicals, paint and oil and are taking their car to the car wash to keep soap out of storm drains. "The program has helped me implement environmental science content within the California Content Standards. It is a hands-on approach to teaching conservation and preservation through real life experience. The curriculum offers an effective tool for teaching about the environment and impacts that humans have," explained Ms. Asselin in her program evaluation.

KIDS for the BAY

Watershed Action Program

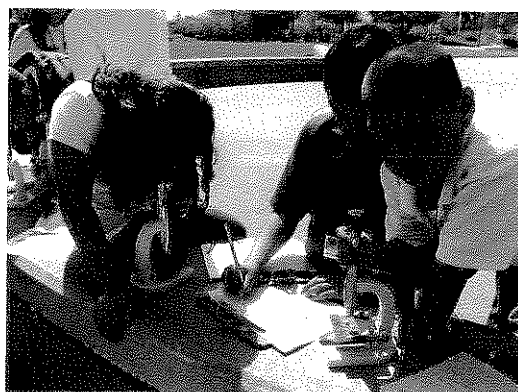
2009-10 School Year

Action Project: Action Projects: Safe Bay Food Consumption Presentations



Students at Highlands Elementary School gave Safe Bay Food Consumption Presentations to their peers and families. The presentations included an overview of pollution in the San Francisco Bay Delta with a focus on pesticides and mercury, pollution's effects on animals and humans in the food chain, and ways to avoid pollution-related illness by safely fishing and cooking fish caught in the San Francisco Bay. The audience watched attentively as the students prepared a sauce, steamed a striped bass and served it as a snack.

Field Trip: Antioch Marina



Students from Ms. Asselin's third grade class at Highlands Elementary took their field trip to the Antioch Marina. The students participated in a variety of activities to learn about and help the bay and delta, including collecting bay water and observing plankton through microscopes, using binoculars to identify shorebirds and important landmarks, and conducting a trash clean-up. Ms.

Isaacson's class at Stoneman Elementary participated in a modified in-class field trip. The Stoneman Elementary students studied plankton in bay water through microscopes, and tested the pH, temperature, turbidity and salinity of San Francisco Bay water.

My Antioch Marina Journal



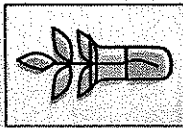
Name: *Felicity Joseph*

Date: *April 22, 2010*



1) pH: A measure of how acidic or basic the water is (you can test pH levels of any liquid). The pH scale goes from 0 to 14. The higher a reading is on the pH scale, the more basic it is. The lower a reading on the pH scale, the more acidic it is. Finding the pH level of the water will tell you what plants and animals can and can not survive there.

Result: 8.0 pH level

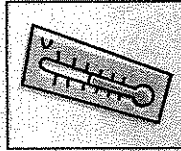


What does your result mean?

*Many different animals
that live in the Bay.*

2) Temperature: A measure of the average energy (heat) of the water molecules. We will use Celsius as our measurement, and convert it to Fahrenheit. Water temperature is very important. Temperature affects the chemistry of the water, and the functions and health of the aquatic plants and animals.

Result: _____ °C = _____ °F



What does your result mean?

3) Salinity: The amount of salt in the water. Testing the salinity gives you an idea of what animals and plants can live in this habitat. The closer you are to the ocean, the higher the salinity in the water. As you move further up a river, the salinity drops. The average salinity level of the ocean is 35 ppt, and of a fresh water creek is 0.2 ppt.

Result: 0 ppt (parts per thousand)



What does your result mean?

4) Turbidity: A lack of clarity, or cloudiness, in the water. Sediments such as dirt, minerals, and nutrients are mixed in the water. The more particles that are in the water, the higher the level of turbidity. Increased turbidity can have a negative effect on aquatic plants and animals, and water quality. Turbidity can increase due to flooding or dumping of pollutants into the water.

Result: $1\frac{1}{2}$ mL = 15 JTU



What does your result mean?

Plankton Investigation

What are plankton?

Plankton are organisms that live in water. There are many different types of plankton. Plankton are all organisms that float or drift with the currents.

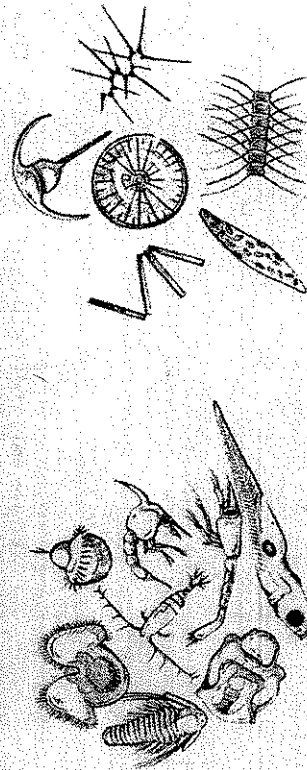
Most plankton are microscopic (very small).

Plankton are at the bottom of most aquatic (water) food chains. Here is an example of a food chain:

plankton → anchovy → salmon → sea lion

Scientists divide all plankton into two major groups.

1. Phytoplankton: Phytoplankton are plant and producer plankton.
2. Zooplankton: Zooplankton are animal plankton. They are either single-celled animals or animals in their larval (baby) stage, such as clams, fish, barnacles, and jellyfish.

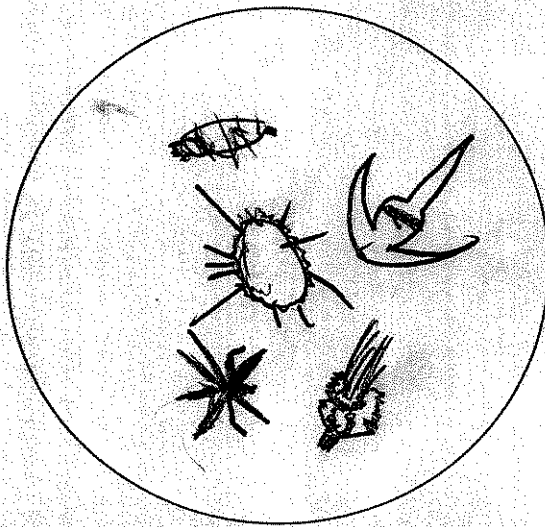


Zooplankton
(animals)

Phytoplankton
(plants and producers)

Plankton Investigation

Draw what you see in the microscope and fill in the table below.



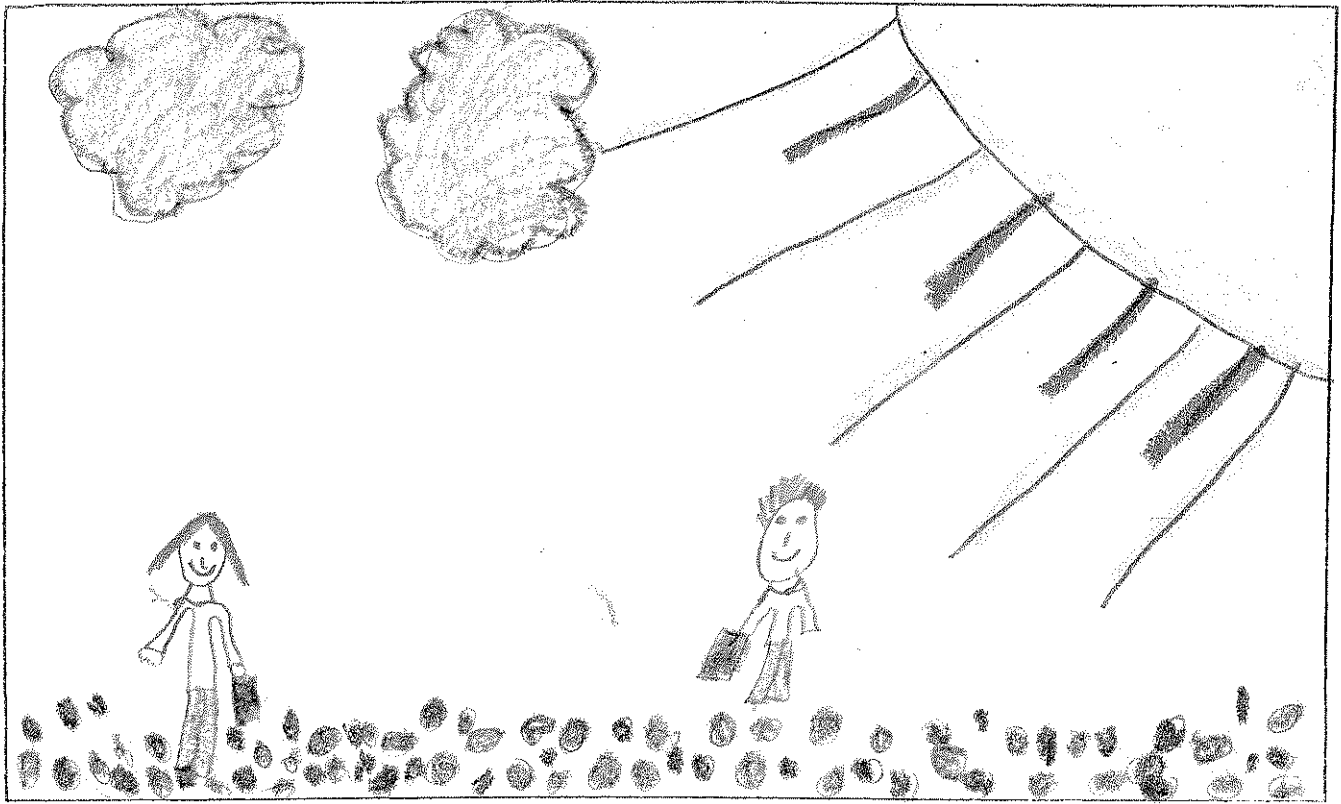
* Can you identify any of the plankton in your microscope?

* List the plankton below and check off (✓) if it is phytoplankton or zooplankton.

Name of plankton	Is it phytoplankton?	Is it zooplankton?
Larval fish	Zoo plankton	✓
Chaetognath	Zoo plankton	✓
Dino flagellates	Phytoplankton	✓
Pycnogonids	Phytoplankton	✓

Date: 2/3/10

Name: Diana 18



I liked playing Food Chain. It was fun because I got to be two kinds of fish. I was an anchovy fish and a salmon fish. The anchovy's had to eat the plankton and the salmon had to try to take our plankton and the two people took the salmon's plankton. It was very fun we were playing in the court with my whole class.

Name of student:

Sammi

Name of family member:

Kimberley (mom)

KIDS for the BAY

Watershed Pollution Interview

Introduction: Ask a member of your family to sit down and talk with you about something important you have been learning in school.

Show your family member the picture on the back of this sheet. Explain what the picture shows. Let your family member know that you will be writing down their answers to some questions you are about to ask them.

1. What is a storm drain?

A storm drain carries rainwater away into rivers, creeks, and streams.

2. Where does water from the storm drain go? Does storm drain water get cleaned?

It goes into rivers, creeks, lakes, and streams. No, the water does not get cleaned.

3. What is the difference between the storm drain system and the sewer system?

Storm drain is for rainwater and sewer system is for household water.

4. What types of pollution could get into the storm drain? Please list three.

a) car oil

b) gasolines

c) pesticides

5. How can you stop these types of pollution getting into the storm drains?

a) organic pesticides

b) recycle oil

c) take gasoline to a recycling center

6. Why is this important?

To clean the environment and to save the planet.

7. Make a pledge with your family member to prevent pollution from getting into storm drains. Write your pledge below.

*I promise to recycle all hazardous waste and not dump it down our storm drain.

Parent/Guardian Signature:

Kimberley (mom)

Thank your family member for talking with you.

Name: Mia C.

KIDS for the BAY

#5

1. Draw your ^{Bay} watershed model and label the features.



2. Explain how water flows into the Bay to make it an estuary.

Salt water is in the Pacific ocean and fresh water comes from the Sacramento river and once they mix they make an estuary. it usually forms around angel island

NAME: Janet

KIDS for the BAY

BAY ANIMAL INVESTIGATION

1. What is your Bay animal?

My animal is the Striped bass.

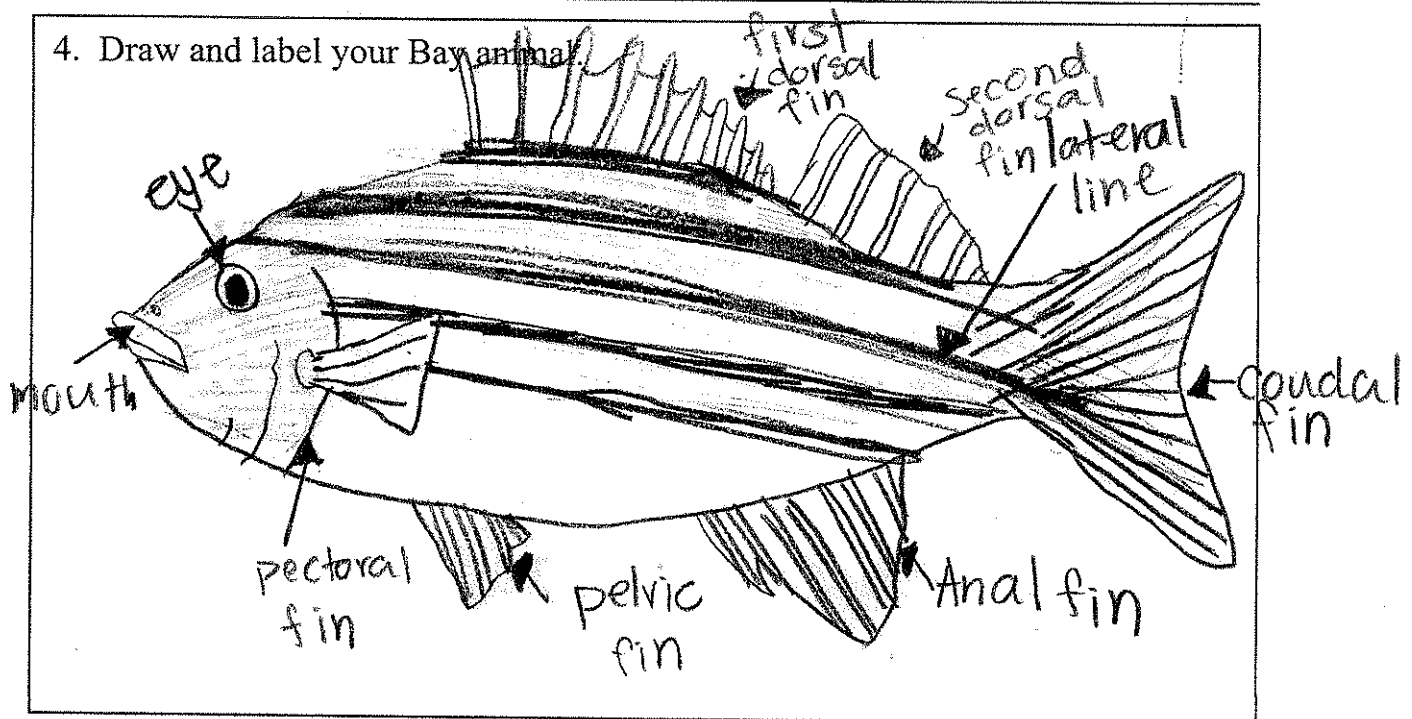
2. Write a food chain including your animal (for example: plankton → clam → gull)

shrimp → striped bass → seals

3. Describe your Bay animal (color, size, texture, smell, how it moves, anything else interesting)

The Striped bass is gray on the sides and top, but whitish-pink on the bottom. It was very scaly and rough. It was about the size of a big waterbottle. It smells like barf. They move from side to side.

4. Draw and label your Bay animal

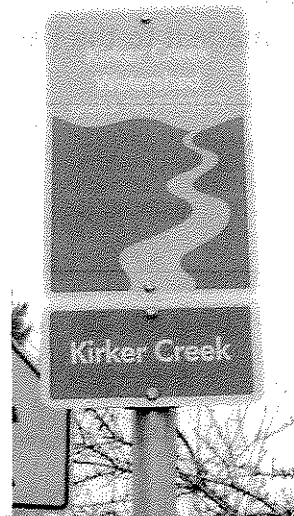


KIDS for the BAY
Watershed Action Program
City of Pittsburgh

Following are photographs and student work from Ms. Cullar's and Ms. Licht's classes, who participated in the Follow-Up Watershed Action Program during the 2009-2010 school year.



Clean up our watershed!



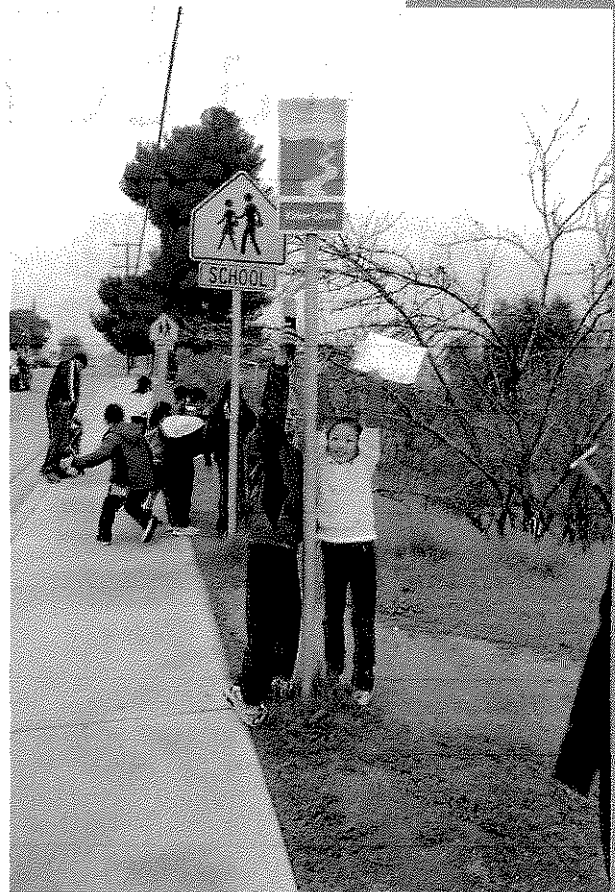
We picked up 5 pounds of trash that would have made it to the Bay. Way to go environmentalists!



Room 16 students collected data about what types of pollution are making it into the our watershed from our neighborhood. We found a lot of paper, glass, aluminum and oil. We also cleaned up a lot of pollution that would have made it to the Bay



Alicia, VJ, Diane and Gregorio are hard at work to prevent pollution and collect data.



Nathan and Pam are proud of their watershed.

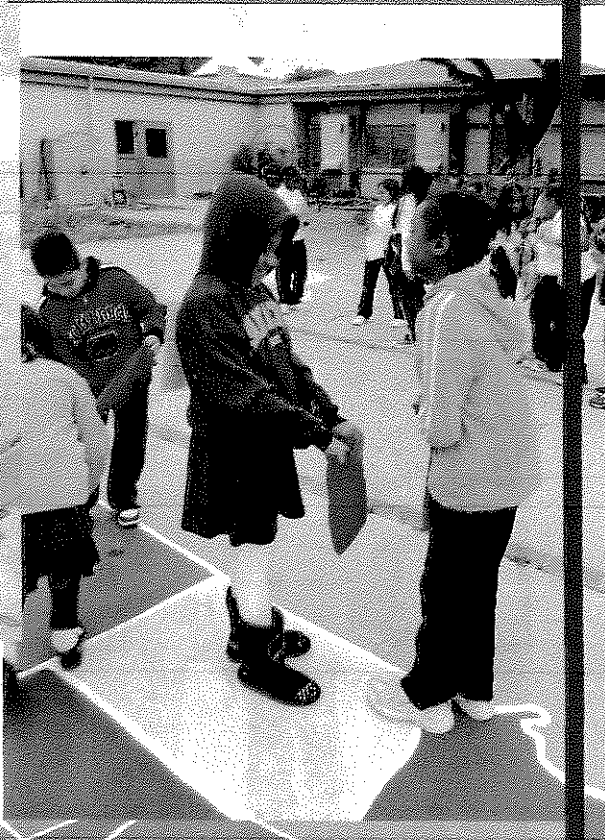


Food Chains

plankton → anchovies → salmon → people

We learned about food chains. One of the bay food chains is above. Plankton are eaten by anchovies, anchovies are eaten by salmon, and salmon are eaten by people. All things in a food chain are affected if something happens to one of the elements in the food chain.

Eman and Armani (anchovies) are eating up a lot of plankton. Be careful ladies, the red ones are polluted.

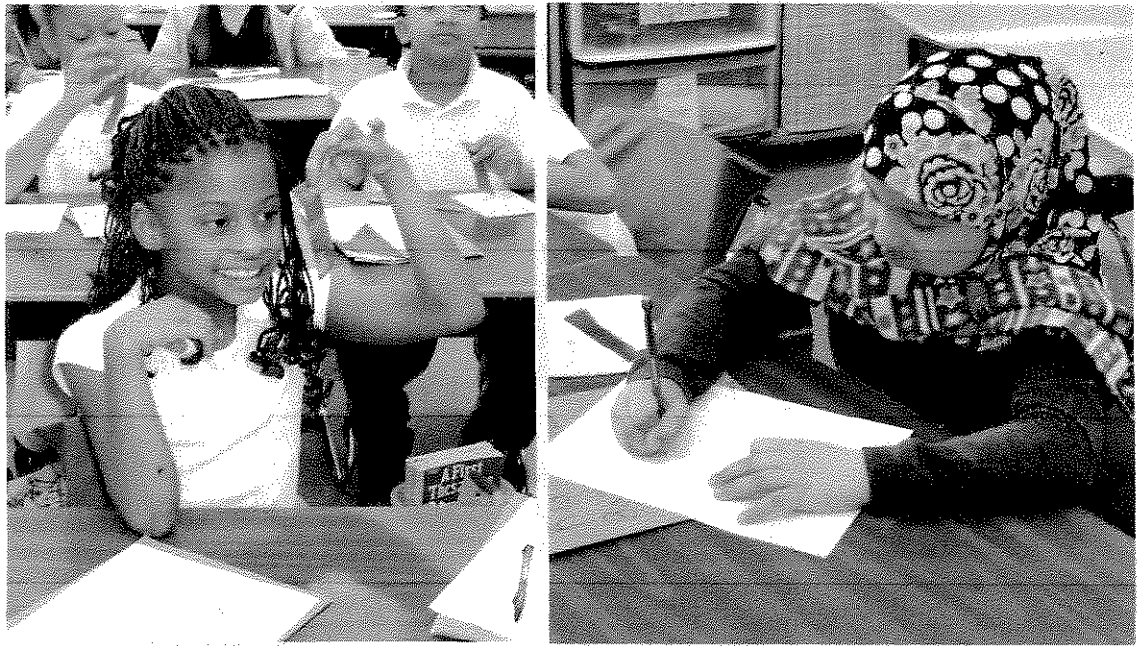


Alexis transfers her energy (food) to Cierra. Some of the pollution will also be transferred along with it. We have to be sure not to eat too much fish from the Bay because we are highest on the food chain.

Adults can safely eat 2 servings of fish from the San Francisco Bay each month and children 1 serving. You can also prevent getting too much pollution by cooking your seafood more safely.



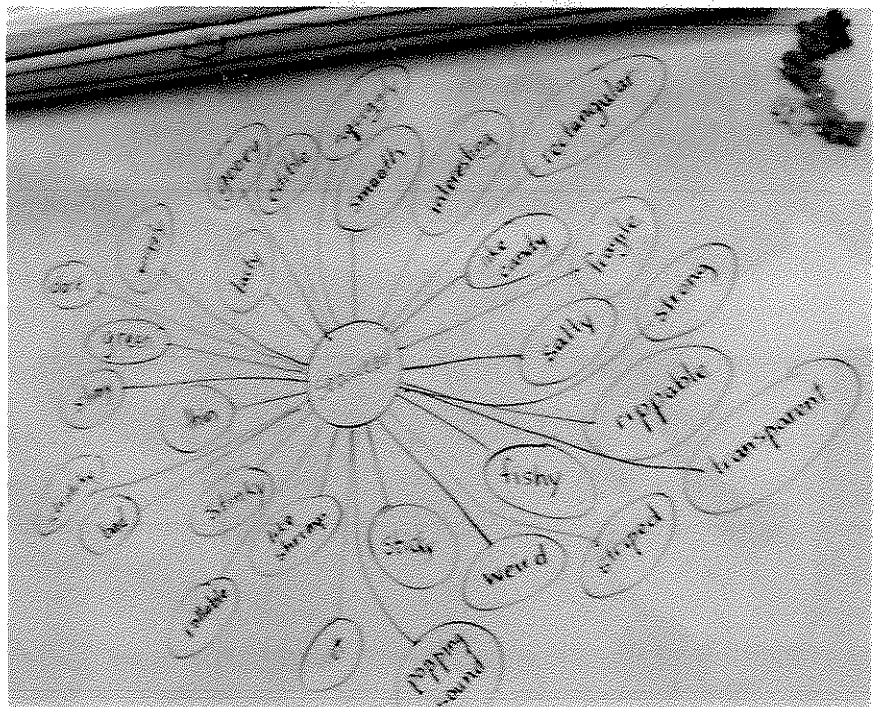
Yulissa was most affected by the pollution because as we move up the food chain the pollution is magnified. She was a human and she got the most (red) pollution.



Heaven and Eman use their senses to explore some seaweed. Then they made a bubble map of adjectives to describe the seaweed.

Bay Organisms

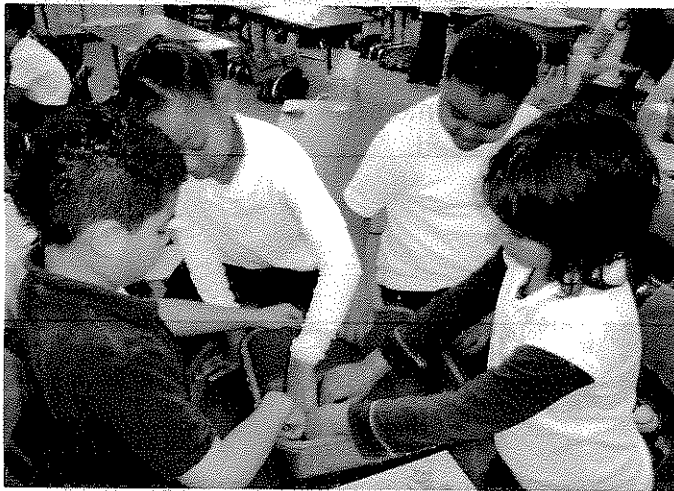
We got to observe
three types of bay
organisms found
in the San
Francisco Bay;
seaweed,
dungenous crab,
and striped bass.





We learned many interesting facts about the organisms. All of the crabs were males, because females are illegal to catch. The males have a tail that is triangle shaped. One of the crabs had barnacles growing on it. The striped bass' scales were smooth going one way and pokey going the opposite direction.

All of the students were good scientists, touching and investigating all of the organisms.



Gregorio shows off his striped bass. Justin and Diane worked together with him to investigate this bay animal.

Diamond

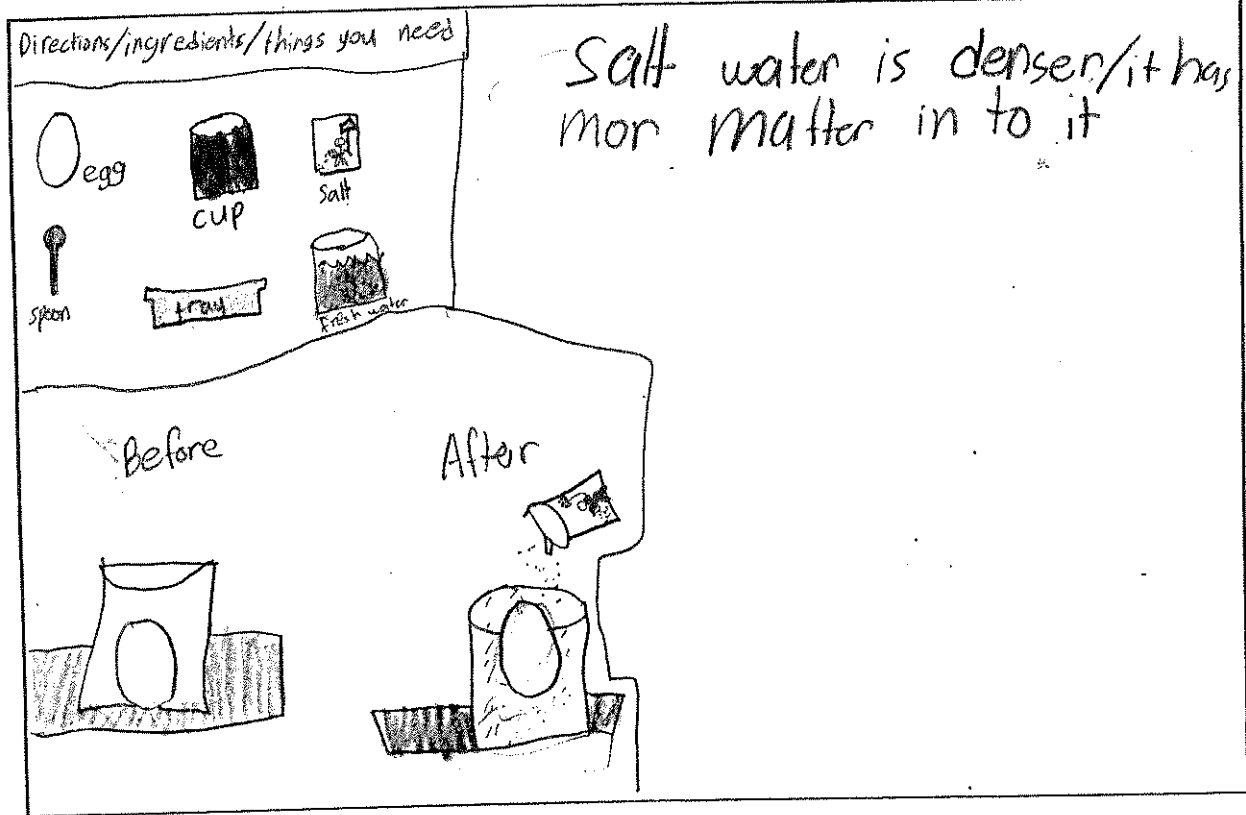
F



Q: Which is denser, salt water or fresh water?

A: Salt water is denser

name: Pam #10



I think that salt water is denser. Today we did an experiment with an egg. First, you ask a question. The question was, which is denser, salt water or fresh water. Next, you form a hypothesis and After that get the things you need. Then, you test the experiment. We put the egg in the fresh water first. Next we put some salt to the fresh water after. It was still in the same cut. And the result was that the egg ended up floating. Later on after we watched it float we took it out. It kind of felt heavy. Just to tell you we mixed the salt with the spoon so you couldn't really see it except for the top. So now we know salt water is denser.

By: Pam #10

NAME: Diane #8

KIDS for the BAY

BAY ANIMAL INVESTIGATION

1. What is your Bay animal?

Striped bass

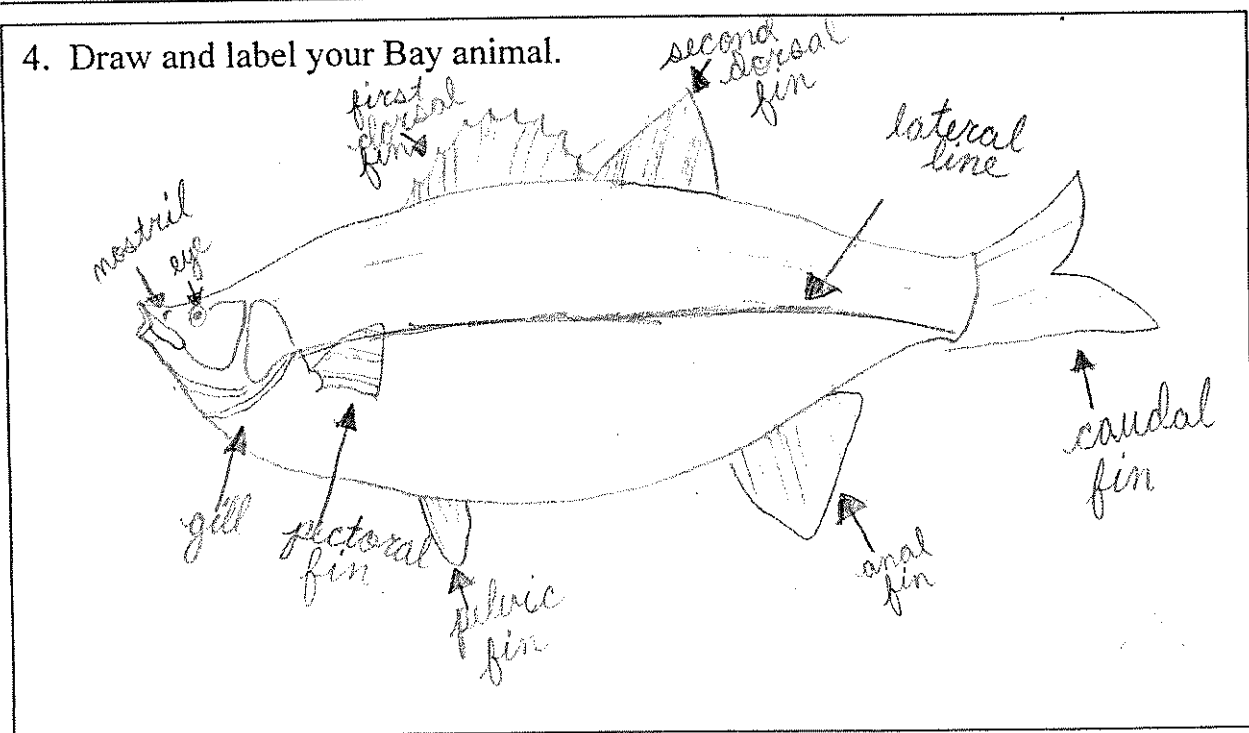
2. Write a food chain including your animal (for example: plankton → clam → gull).

(plankton → clam → anchovy → striped bass)

3. Describe your Bay animal (color, size, texture, smell, how it moves, anything else interesting).

The striped bass has six fins. It has small scales and has a line that's called a lateral line. On the bottom of the fish it has a fin that's called anal fin. Its color is gray and it's medium sized.

4. Draw and label your Bay animal.



STATE CAPITOL
STATE CAPITOL, ROOM 2054
SACRAMENTO, CA 95814
(916) 651-4007
FAX (916) 445-2527

DISTRICT OFFICE
1350 TREAT BOULEVARD
SUITE 240
WALNUT CREEK, CA 94597
(925) 942-6082
FAX (925) 942-6067

California State Senate

SENATOR
MARK DESAULNIER
SEVENTH SENATE DISTRICT



CHAIR
SENATE LABOR AND INDUSTRIAL
RELATIONS
BUDGET SUBCOMMITTEE NO. 4
ON STATE ADMINISTRATION,
GENERAL GOVERNMENT &
CORRECTIONS
COMMITTEES
SENATE APPROPRIATIONS
SENATE ELECTIONS,
REAPPORTIONMENT &
CONSTITUTIONAL AMENDMENTS
SENATE HEALTH
SENATE TRANSPORTATION AND
HOUSING

August 21, 2009

Highlands Elementary School
4141 Harbor Street
Pittsburg, CA 94565

Dear Aaron:

Thank you for writing to me about the San Joaquin Delta and its environmental health. The Delta is one of California's most valuable resources.

I understand that the Salmon and Steelhead fish populations are in jeopardy. You and your fellow classmates have informed me of many environmental concerns for the Delta. I understand that fish are endangered by dams and pumping in the Delta. If we do not manage the Delta more carefully, important wild life such as Salmon and Steelhead could go extinct.

The Delta is one of California's richest resources. I agree that we need to work harder to keep the Delta cleaner and healthier. Like you and your classmates, I oppose the construction of a peripheral canal, which would only cause further environmental damage to our San Joaquin Delta.

The Delta is integral to California's ecosystem. The environmental health of California is of the utmost importance to me. I hope that you continue to take a strong interest in the environment. It is so important to be an advocate for the environment and your community. Your commitment to your future is essential and I hope you continue to take such an active role in pursuing environmental justice.

I look forward to your continued interest in California's future. With your help, we will be able to enjoy the Delta and California's environmental treasures for generations to come. Thank you for your input—it has never been more important. I will continue to work hard alongside my fellow legislators to solve the environmental challenges facing our state. If I can be of service, please do not hesitate to contact my District Office at (925) 942-6082.

Sincerely,

MARK DESAULNIER

MD:es

May 5, 2010

Dear Funder of the Watershed Action Program,

My name is Madisyn Leffle and I am in the third grade. I am studying the Watershed Action Program with kids for the Bay. Thank you, I enjoyed all you taught us. Thank you for the opportunity to participate in the program.

My favorite thing we did in the classroom lessons was the tank with water because it explained to me how pollution gets into our storm drain. I learned not to pour pesticides in our garden so that the Earth is not polluted.

My class and I went to the Delta, Antioch Marina for our field trip. We studied the water from the Delta, which is an estuary. Some of the activities we did were we took the temperature of the water. I learned that the water is just right for the animals but there is still some fish disease. I felt that the trip was great because I learned a lot and I was amazed by the things that I saw. My favorite part of the trip was the nature walk.

Our action project was the Safe Bay Cooking Project. We gave a presentation on how to safely prepare and cook fish from the Bay. We invited a third grade class and our parents to learn about the dangers of pollution. We learned that mercury and pesticides are found in animals skin, fat, muscle, brain, and organs, and these should not be eaten. I also learned that plants are always first in the food chain. I hope that people

learned to not litter pesticides at all.

Sincerely,

Madisyn

KIDS for the BAY

Watershed Action Program

School: Highlands

Date: 5/6/10

Teacher's Name: Heather Asselin

KftB Program Director: Deborah Zierten

Overall Program Evaluation

1. How has the Watershed Action Program helped you as a classroom teacher?

The program has helped me implement environmental science content within the California Content standards. It is a hands on approach to teaching real life experience of conservation and preservation. The curriculum offers a more effective tool for teaching about the environment and impacts that humans have. It is a subject I am passionate about and now have better tools to educate.

2. Please share the impact that the Watershed Action Program has had on your students. Have you noticed a change in attitude or behavior in your students as a result of the program?

My students have become more aware of the overall human impact on our environment, from pollution in the local creek and watershed to commonly used pesticides. They pick up garbage from the ground on and off campus, they tell their parents and families about things they can do to protect the animals and plants in the bay.

3. How has the program impacted your students' families and/or the school community?

I have had parents inform me that their child has shared with them at home the impacts of pollution and they have shared some changes they are making. Recycling, no longer using pesticides, safely preparing the fish caught from our delta, properly disposing chemicals, paint, and oil, and taking their car to the car wash are all things that my students have expressed an interest and initiative in changing at home.

4. Any additional comments or suggestions?

I absolutely enjoyed this program and the student engagement of my class. The students loved learning about our bay, environment, and food chain. I am looking forward to teaching the Watershed Action Program next year.

***Please complete the survey on the following page...

Fieldtrip Evaluation

1. Please describe the overall experience of the field trip for you and your students.

The field trip began exploring our surroundings while at the delta, locating information we learned from the satellite maps in class. Students identified the Antioch bridge and the wetlands. Students examined plankton from the bay and identified birds from the shore and their activities. Students used their journals to record their observations. They tested the pH level of the Delta water, and the salinity and turbidity as well. They had a scavenger hunt identifying plant life and animal behaviors. They also did a clean up of the area, disposing of litter and trash.

2. Describe one or two highlights from the fieldtrip. Excellent trip!

The students became scientists when they were able to do the experiments themselves. The water quality testing made the students aware of how important water temperature and quality is to sustain life. I really enjoyed testing the pH, salinity, turbidity, and temperature of the water. The clean up portion was as exciting. The students saw animal and plant life and recognized the evident trash/litter polluting their habitats. They really enjoyed the pastel paintings in the park as a reflection of what they saw and learned.

3. Please suggest any improvements to the fieldtrip component of the Watershed Action Program.

N/A

Please recommend any teachers that might be interested in any of KIDS for the BAY's programs:

Name	School	Grade Level	Contact Info

KIDS for the BAY

Watershed Action Program Classroom Workshop Evaluation

NAME: Heather Asselin SCHOOL: Highlands
DATE: 5/6/10 GRADE: 3
KfB INSTRUCTOR: Deborah Zierten

Classroom Workshop Evaluation

1. Please describe the overall experience of the classroom workshops for you and your students.

The classroom workshops were informative and hands-on. The students had complete engagement in all the activities. They made clay models of the bay and experimented with salt and fresh water, and pollution. They played the food chain game. They cleaned up the watershed in our area. They examined a striped bass and crab. They learned about the estuary being a unique place here in our bay. The overall experience for our class and myself, was every classroom activity was a unique, exciting, and excellent learning environment and experience.

2. Please describe one or two highlights from the classroom workshops.

The students really enjoyed building the clay models of the bay. They made an estuary using salt and fresh water and the effects of an oil spill, with food coloring. They then used their breath to simulate wind and observe how oil moves through an entire body of water. I also think the day we had the opportunity to investigate the crab and striped bass. The students really enjoyed touching each animal and identifying each part of its features. Both activities were excellent learning experiences and the students loved participating.

Continued on following page...

KIDS for the BAY

Watershed Action Program Action Project, Fieldtrip, & Overall Evaluation

School: Highlands

Date: 5/16/10

Teacher's Name: Heather Asselin

KftB Program Instructor: Deborah Zierten

Fieldtrip Site: Antioch Marina

Action Project(s): Safe Bay Fishing and Cooking Action Project

Action Project Evaluation

1. Please describe your action project and the overall experience of implementing it for you and your students.

Students presented many types of pollution found in the Bay and in animals we eat. They described the effects of pesticides and mercury on humans and how ingesting fish, like striped bass can make people sick. Students prepared a striped bass and a recipe for cooking the fish. They explained the proper way to cook fish and which parts of the fish are healthy to eat, and which should be discarded.

2. Do you feel that the class' action project was successful? Why or why not?

The students' presentation of their action project was very successful. They explained and understood the consequences of eating fish with pollution and conveyed the message quite well. They took pride in their knowledge and presented it with great confidence.

3. Please include any suggestions you might have to improve the action project component of the Watershed Action Program.

n/a



CITY OF PITTSBURG
INTEGRATED PESTICIDE MANAGEMENT PROGRAM
POLICY

IPM Standard Operating Procedures

The following are standard operating procedures for the City of Pittsburg for IPM related activities within the City of Pittsburg's jurisdiction. These procedures include all Municipal Regional Permit (MRP) stormwater requirements under Provision C.9, Pesticides Toxicity Control (please Attachment A for specific requirements in the MRP). The City of Pittsburg and the Contra Costa Clean Water Program work in conjunction to track and participate in regulatory processes, interface with county agricultural commissioners, and conduct public outreach. For guidelines regarding the City of Pittsburg IPM program please refer to Attachment A, the City of Pittsburg IPM Policy. The department responsible for implementing, overseeing, reviewing and updating, and reporting the IPM program is the Public Works Department and their number is (925) 252-4014.

Pesticide Use

Pesticide use within the City of Pittsburg is determined by a risk assessment of each pest situation. Each risk assessment includes analysis of what pest is causing the damage (e.g., weed, insect, rodent, etc.), use of non-chemical pest control methods, monitoring of control of pests through non-chemical methods, then application of pesticides as a last resort. Pesticides used by the City of Pittsburg are selected based on risk assessment of the human health and environmental effects of the chemical selected.

Approved List of Pesticides

The City of Pittsburg will develop and maintain a list of approved pesticides. Criteria for developing the pesticide list is based on acute and chronic toxicity of products, chemicals known to cause cancer and known to cause reproductive toxicity, and environmental impacts of the products are also considered. Pesticides of concern listed in C.9 of the MRP will go through a more rigorous process for approval. Each pesticide used is monitored and recorded using a pesticide management database.

Pesticide Applicators

All pesticide applicators and IPM providers shall have IPM training and

certification as required by the MRP. All IPM contractors shall be IPM-certified or have IPM language in their contracts as required by the MRP. All IPM providers are required to follow these standard operating procedures as well the City of Pittsburgh IPM Policy.

IPM Training

All pesticide applicators will be trained in IPM. IPM training may include local, countywide, or regional efforts. All staff associated with planning, design, construction, and maintenance of buildings and landscaping shall receive an orientation to these standards operating procedures and their roles and responsibilities in implementing IPM within their work duties.

IPM Outreach

Pesticide application information will be provided to the public upon request. Public outreach for IPM includes point of purchase outreach and contractor outreach by the Bay Area Stormwater Management Agencies Association (BASMAA) as required by the MRP.

Reporting

A copy of the City of Pittsburgh's IPM policy shall be included in the annual report. Trends in quantities and types of pesticides used shall also be reported, as well as reasons for any increases. The annual report shall also include the percentage of City of Pittsburgh's employees who apply pesticides that have been trained in IPM. For any contractor who applies pesticides, a copy of their contract specification or certification shall also be included in the annual report. For regional regulatory, interface or outreach efforts, the City of Pittsburgh' may reference those regional reports.

INTEGRATED PEST MANAGEMENT PROGRAM

GUIDELINES

DEFINITIONS

CONTRACT: is a binding written agreement requiring the services of an outside provider for grounds maintenance or any pest control related services.

CONTRACTOR: is a person, firm, corporation or other entity, including a governmental entity that enters into a contract with a department.

EMERGENCY: is a pest outbreak that poses an immediate threat to public health or significant economic or environmental damage.

EXEMPTION: is a process by which materials not on the tiered product list can temporarily be used, but only after all alternatives have been reviewed, evaluated, and/or implemented and only after the IPM Committee and/or IPM Coordinator has authorized the use of the pesticide for the specific purpose. The application for an exemption shall be filed on a form specified by the IPM Committee and signed by the IPM Coordinator. The decision to approve an exemption will be based upon an evaluation of the failure or alternatives, and taking into consideration public health, environmental and financial risks.

HAZARDOUS MATERIAL: is a chemical or mixture that may pose a physical hazard, health hazard, or environmental hazard and that is regulated under the law to control its harmful effects. This definition is not intended to be rigid or legalistic because all materials regulated in this manner merit special attention and consideration under this program.

INTEGRATED PEST MANAGEMENT: is a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy

in an environmentally and economically sound manner to meet agency programmatic pest management objectives. IPM is also an ecosystem based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.

IPM COMMITTEE: the IPM committee is responsible for guiding the agency-wide implementation of the approved IPM program. The IPM committee may consist of representatives from the Building Maintenance, Street and Drainage maintenance, Parks Services, Clean Water Program and an outside representative (i.e. local resident, a representative from the Contra Costa Clean Water Program) as deemed appropriate by each department involved in the IPM strategy implementation. The IPM committee will have a set schedule for regular committee meetings throughout the year.

IPM COORDINATOR: is a designated individual that facilitates the IPM program and oversees the application of pesticides or contract pesticide applicators. The IPM Coordinator is the primary point of contact, and shall be trained in the principles of low-risk IPM, safe application of pesticides and alternatives to pesticide use.

IPM POLICY: is a written document that serves as a guideline for agencies to use as a strategy to implement their IPM program.

IPM PROGRAM: is a coordinated pest management approach that implements the IPM policy, management plans, specific to types of sites or pests, training requirements, record keeping and evaluation practices.

LANDSCAPES: are grounds that are actively managed such as parks, plantings and lawns around public buildings, right- of –ways, watersheds, and open spaces.

PEST: is any insect, rodent, nematode, snail, weed, fungus or other form of plant or animal life that adversely interferes with the aesthetic, health, safety, environmental or economic goals of a jurisdiction. For the purposes of this document, Pests do not include viruses or microorganisms on or in a living person or animal, but shall include plant diseases.

PESTICIDE FREE ZONES: a site or area within a site designated as a “Pesticide Free Zone” in order to further reduce and eliminate pesticide use in areas of

higher public exposure or areas with high environmental sensitivity. Any pesticide use deemed necessary for the protection of public areas, public safety, and environment I these zones will only be authorized through the exemption process.

SUSTAINABLE DESIGN, CONSTRUCTION, and MAINTENANCE:

Principles, materials, and techniques that conserve natural resources and improve environmental quality throughout the life cycle of the landscape and surrounding environment. Sustainable designs for buildings and landscapes incorporate methods that reduce the potential for pest problems from the start and with long-term maintenance needs in mind.

TOXICITY CATEGORY I PESTICIDE PRODUCT: any pesticide product that meets US EPA criteria for Toxicity Category I under Section 156.10 of Part 156 of Title 40 of the Code of Federal Regulations.

TOXICITY CATEGORY II PESTICIDE PRODUCT: any pesticide product that meets US EPA criteria for Toxicity Category II under Section 156.10 of Part 156 of Title 40 of the Code of Federal Regulations.

SECTION 1. INTRODUCTION

1.1 IPM PROGRAM PURPOSE

The purpose of this IPM Program is to establish the procedures, plans and actions for the IMP program for the City of Pittsburg that will manage pests and vegetation on public lands, rights-of-ways, and bodies of water in an environmentally sensitive manner while addressing public health, safety, economic, legal, and aesthetic requirements. The IPM Program provides guidelines for pest management, which adhere to stormwater regulations, reduces pesticide use and in turn reduces pollution associated with pesticide run-off. This IPM program applies to City of Pittsburg maintenance staff, and management staff contracted to manage City facilities. This policy is not applicable to residents or businesses within the City of Pittsburg, but instead suggests Best Management Practices (BMPs) to encourage IPM methods for private businesses and residents.

1.2 IPM STORMWATER PERMIT GUIDELINES

The City of Pittsburg's current NPDES permit now a Bay Area wide Stormwater Permit or Municipal Regional Permit (MRP), NO. CAS612008, Order Number R2-2009-0074, Issued on October 14, 2009 states that provision C.9 Pesticides Toxicity Control (Appendix A), all permittees shall prevent the impairment of urban streams by pesticide-related toxicity and implement a pesticide toxicity control program that addresses their own and others' use of pesticides within their jurisdiction that pose a threat to water quality and that have the potential to enter the municipal conveyance system. Provision C.9 also includes requirements such as adoption and implementation of an IPM Policy or Ordinance, training of municipal employees to implement IPM, Tracking, and participation in regulatory processes for pesticides, interface with county agricultural commissioners, evaluating source control actions relating to pesticides, public outreach for pesticides, and outreach to pest control contractors.

Additional requirements of Provision C.9, such as tracking and participation in regulatory processes for pesticides, interfacing with county agricultural commissioners, and public outreach for pesticides will be done in conjunction with the Contra Costa Clean Water Program.

Please refer to the MRP for specific BMPs for permit compliance. This IPM Program will incorporate all current IPM requirements in the MRP.

1.3 IPM POLICY

An IPM policy is a written document that serves as a guideline for agencies to use as a strategy to implement their own IPM program. The City of Pittsburgh's IPM policy has been written and reviewed by the appropriate municipal authorities, and has been approved by municipal representatives who are responsible for implementing the main components of the IPM program. The IPM policy is provided as Appendix "B" to the document.

1.4 ROLES AND RESPONSIBILITIES

In order to establish an effective IPM program, individual tasks are delegated to City staff representatives who are responsible for implementing the main components of an IPM program. The Public works Department are the designated municipal staff to oversee the IPM program.

The duties for each designated role are as follows:

The **Public Works Superintendent** shall be responsible for:

1. Ensuring that department procedures, budget and staffing decisions support implementation of the IPM program;
2. Providing training to building and grounds management staff in the requirements of the IPM program;
3. Selecting an IPM Committee to include representatives that use pesticides;
4. Designating an IPM Coordinator to ensure products used by the Department meet the standards outlined in the IPM program and represents the Department on the IPM committee.
5. At least annually and in conjunction with the IPM Coordinator, report to the City Manager and/or City Council on the Department's implementation of the IPM program.

The **IPM Committee** is responsible for:

1. Meeting on a regular basis to review and discuss pest management practices;
2. Develop, adopt and periodically review and update the Tiered Product List

3. Review, approve, or deny exemptions to the Phased-out pesticide approved list.
4. Review emergency pest control decisions.
5. Investigate low-risk / least hazardous alternatives to conventional treatments
6. Assist departments in implementing the IPM program by developing educational information for staff and public users about IPM plans and programs; and
7. Annually review the written IPM program and recommend appropriate revisions to ensure the program meets the intended purpose and goals of IPM.

Individual IPM Committee members will be comprised of representatives from the Public Works Department, other City staff, and /or residents. The IPM Committee will meet regularly. If the Committee is disbanded or becomes inactive at any time during this program implementation, the responsibilities of the IPM Committee will be assigned to its successor, if any, or to the Director of the Public Works Department. The Committee's role is supportive of the IPM Coordinator.

The **IPM coordinator** shall be responsible for:

1. Coordinating efforts to adopt IPM techniques.
2. Communicating with all staff on the goals and guidelines of the program
3. Coordinating training programs for staff
4. Tracking all pesticide use and ensuring that the information is made available to the public
5. Tracking all reporting information as required by the MRP
6. Coordinating with other public agencies that are practicing IPM

The IPM coordinator will be responsible for preparing an annual report for the IPM program activities.

IPM report information should include, at a minimum:

1. Identify the types of pest problems that the Department has encountered
2. Identify the types and quantities of pesticides used by the Department
3. Identify alternatives currently used for phased out pesticides
4. Identify alternatives proposed for adoption within the next 12 months
5. Identify exemptions currently in place and granted during the past year
6. Identify planned changes to pest management practices and evaluate the effectiveness of any changes in practice implemented.

SECTION 2. IMPLEMENTATION PRACTICES

2.1 PESTICIDE SELECTION AND APPROVAL

The City of Pittsburgh will make product recommendations based on a tiered risk assessment of pesticides. The Public works Department will develop this tiered risk assessment of pesticides. A prioritized list of products will be developed to identify products that may be targeted for future phase-out based on review of the product's contents, precautions, need for the product, and adverse health and environmental effects. The list shall be submitted as part of the annual report. The list may be used if determined appropriate by the Public Works Department to be in compliance with the emergency exemption process. See Section 2.2

Criteria for developing the product list shall be based on acute and chronic toxicity of products and chemicals known to cause cancer and known to cause reproductive toxicity. Environmental impacts of the products shall also be considered. Pesticides of concern listed in Provision C.9 of the MRP will go through a more rigorous process for use and approval than pesticides that are not on the approved list.

Products on the Tiered Product List will be divided into three classifications:

- I. Approved Use
- II. Limited Use
- III. Banned Use

2.3 ESTABLISHING "PESTICIDE FREE ZONES"

Pesticide Free Zones are sites or areas within a site established to be free of pesticide applications. All pesticide applications will be done only through the exemption process. The following areas have been designated as "Pesticide Free Zones:"

- Playground / tot lots
- Public Parks
- Picnic Areas (hardscape areas)

- Creeks
- Plazas and areas of public thoroughfare

The Public Works Department will base decisions to add to the list of Pesticide Free Zones upon monitoring the effectiveness of alternative pest control and other factors. It is the intention over time to expand these zones as time and resources allow.

2.4 PESTICIDE APPLICATOR / IPM PROVIDER SELECTION and APPROVAL

The City of Pittsburgh will implement a process to ensure that any contractor employed to conduct pest control and pesticide application on municipal property engages in pest control methods consistent with this IPM program. Contractors will be required to follow the agency's IPM policy, SOPs, and BMPs; provide evidence to the City of Pittsburgh Public Works Department of having received training on current IPM techniques when feasible; and, provide documentation of pesticide use on agency property to the agency in a timely manner. In the process of hiring a contractor for IPM the contractor may be required to provide a statement of qualifications for IPM services. In addition, the contractor shall submit to the Public Works Department an IPM implementation plan that includes:

- Types and estimated quantities of pesticides that the contractor may need to apply to during its contracted work;
- Outline actions the contractor will take to meet the IPM program to the maximum extent practicable; and
- Identify the primary IPM contract for the contractor

The IPM Coordinator shall ensure that all municipal employees who, within their scope of their duties, apply or use pesticides that threaten water quality are trained in IPM practices and the City's IPM policy. The City of Pittsburgh Department shall require municipal staff and all contractors to have IPM certification from an approved IPM program such as Eco Wise, Bay Friendly, or other program approved by the Regional Board. In addition, the contractor will sign a contract for pesticide application services that includes the IPM implementation plan detailed above that has been approved by the City of Pittsburgh and contractor prior to start of application services.

2.5 IPM APPLICATION

Only persons specifically appointed by the IPM Coordinator as Pesticide Applicators will be permitted to use pesticides on municipal facilities. Use of pesticides by pesticide applicators is limited to Approved Use and Limited Use Products. Pesticide applicators must follow regulations and label precautions.

Pesticide applicators and municipal employees that could potentially be exposed to pesticides will receive IPM training and hazard materials training for the safe use of pesticides and other grounds maintenance hazardous materials in the workplace by their supervisor or designee. As each municipal program is updated and its objectives reviewed, the program staff will be trained accordingly to understand the program's periodic changes. Education will include formal classroom training, on-site informal meetings for those employees responsible for providing pest control at least once per year. No pesticides may be used at facilities except in accordance with this IPM program.

2.6 EDUCATION AND TRAINING

All staff associated with planning, design, construction and maintenance of buildings and landscapes shall receive an orientation to this IPM program and their roles and responsibilities in implementing it in a written or verbal format.

All municipal employees who handle pesticides should be familiar with the most recent material safety data sheet (MSDS) files.

The IPM Coordinator will be responsible for coordinating training events for all pesticide applicators and municipal staff involved with buildings and grounds maintenance. IPM training may be coordinated through the Contra Costa Clean Water Program or other through regional efforts with other Bay Area Stormwater Agencies Association (BASMAA) members. The IPM coordinator shall invite speakers and arrange for other educational opportunities to assist implementing the IPM program each year. The IPM Coordinator shall inform employees on Department policies and procedures relevant to this IPM Program and keep staff current with best landscape-management practices and technologies that utilize IPM. Employees shall also be involved in identifying and implementing strategies to minimize the use of pesticides and in evaluating replacements for chemicals targeted for phase out.

2.7 OUTREACH TO THE PUBLIC

The MRP requirements for public outreach include point of purchase outreach (outreach to consumers at the point of purchase), outreach to residents who use or contract for structural or landscape pest control, and outreach to pest control operators and landscapers. These outreach activities can be coordinated through the Contra Costa Clean Water program and other members of BASMAA.

SECTION 3. IPM PRACTICES

This section addresses the three main types of managerial areas concerned with IPM, their definition, common pest problems, and suggested management strategies for IPM implementation. In order to implement an effective IPM program, a brief discussion of specific IPM practices or BMPs are included in this document; this IPM is a working document and will be modified as more pest information and technologies become available.

3.1 STRUCTURAL IPM

Structural maintenance pests in and around building structures such as office complexes, libraries, correctional facilities, hospitals, schools, yards, animal shelters etc. Pest management in and around buildings typically involve a combination of chemical (insecticide) application and/or mechanical methods of removing pests. All of these maintenance practices have the potential to harm the environment and human health.

The common pest concerns for buildings include ants, rodents, spiders, and other organisms. These organisms usually enter the building for shelter and food but are unwanted near human habitants. The City will assess current pest problems in and around public buildings to develop a site-specific pesticide and grounds maintenance plan for all public sites as needed. These plans will include a management strategy for pests incorporating IPM practices for inside and outside all public buildings. Many of the IPM protocols for removing such organisms from buildings involve prevention strategies.

3.2 LANDSCAPE IPM

Landscape maintenance includes the management of pests in and around medians, right-of-ways, parks, plazas, open space, creek areas, gardens, and golf courses. Landscape maintenance activities include vegetation removal; herbicide; insecticide application; fertilizer application; watering; and other gardening and lawn and landscape care practices. Vegetation control typically involves a combination of chemical (herbicide) application and mechanical methods. All of these maintenance practices have the potential to contribute pollutants to the storm drain system.

The common pest concerns for landscape and turf include noxious weeds, rodents, ground squirrels, and other invasive animals that destroy the welfare of the landscape plants.

The major objectives of this BMP are to minimize the discharge of pesticides, herbicides, and fertilizers to the storm drain system and receiving waters; prevent the disposal of landscape waste into the storm drain system by collecting and properly disposing of clippings and cuttings, and educating employees and the public.

Many of the IPM protocols for turf and landscape management include:

- Protection of the storm drain system from contaminated runoff;
- Proper disposal of removed vegetation
- Smart irrigation management to control runoff from overwatering
- Manual weeding rather than use of chemicals/ herbicides
- Manual removal of pests of vegetation (i.e. birds, insects, etc.)
- Composting and mulching practices
- Alternative landscaping other than turf
- Alternative fertilization practices and products
- Erosion control
- Planting of native, drought resistant plants
- Reducing pesticide/herbicide/insecticide use
- Removal and replacement of plants laden with bacteria, parasites, and fungi

- Prevention practices to ward off pests from landscaped areas
- Promoting beneficial organisms to feed on pests
- Understanding of current pest problems that exist rather than relying on a preventative schedule of applying chemicals
- Testing of soils for proper additive application
- Education of employees on IPM methods and inspection of contracted employees for IPM practices
- Documentation and monitoring of all pesticide use

3.3 CONSTRUCTION AND DEVELOPMENT IPM

Construction and development management includes landscape design or renovation of existing landscape. Poorly planned landscape designs may require intensive maintenance and greater reliance on pesticides for pest control than landscapes created with IPM design specifications.

Public projects that include the design of new landscapes or renovation of existing landscapes shall design and construct the project consistent with IPM plans to ensure that, where possible, the design considers IPM measures.

In planning, designing and installing landscapes owned and managed by the City of Pittsburgh, site objectives shall include future management and maintenance practices that protect and enhance natural ecosystem. The design should take into account parameters that will enhance the intended use of land and minimize pest problems; such as, types of uses, soil conditions, grading and slope, water table, drainage, proximity to sensitive areas, selection of vegetation and vector control issues. Priority shall be given to IPM strategies when designing new and renovating existing landscape areas.

IPM POLICY

It is the purpose and intent of this IPM Policy to ensure that the City of Pittsburgh departments and all those who apply pesticides to property owned and/or managed by the City of Pittsburgh utilize integrated pest management (IPM) practices and reduce pesticide applications on public-owned and/or City of Pittsburgh managed property to the maximum extent feasible and as required by State and Regional Stormwater regulation.

The City of Pittsburgh in carrying out its pest management operations, shall focus on long term prevention or suppression of pest problems with minimum impact on human health, non-target organisms, and the environment.

The goal of the City of Pittsburgh is to reduce its use of pesticide use and use to maximum extent possible non-toxic methods to control pests on City property. The City of Pittsburgh recognizes that pesticides are potentially hazardous to human health and the environment, and non-pesticide alternatives will be considered over toxic pesticides on City property. The City of Pittsburgh will develop and adhere to IPM Standard Operating Procedures that will outline all the IPM activities that will be implemented to ensure that less toxic methods are used to control pests on City property.

City of Pittsburg Water Utilities

Planned Discharges of the Potable Water System (C.15.b.iii.(1))

Date of Discharge	Hydrant #	Site/Location	Discharge Type	Receiving Waterbody(ies)	Duration of Discharge	Volume (GAL)	Estimated Flow Rate (gallons/min)	Chlorine Residual (mg/L)	pH (standard units)	Discharge Turbidity (NTU)	Receiving Water Turbidity (NTU)*	Implemented BMPs & Corrective Actions
7/1/2010	574	Corner of Industry Rd and Harbor St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	15 minutes	2850	190	1.58 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/1/2010	No#	Industry Rd	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	15 minutes	3000	200	1.72 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/1/2010	13790	600 Industry Rd	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	15 minutes	5984	399	1.75 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/2/2010	15932	south of curb of W. Leland Rd	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	25 minutes	15708	628	no chlorine residual before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/2/2010	No#	340 E. 3rd St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	15 minutes	4488	299	1.65 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/2/2010	No#	750 E. 3rd St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	3740	374	1.55 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/6/2010	3719	358 E. 3rd St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	5984	598	1.60 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/6/2010	15686	4 Cardinale Ct	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	5236	524	1.64 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/6/2010	15688	12 Cardinale Ct	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	4488	449	1.60 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/6/2010	No#	Northwest 258 E. 3rd St on north curb	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	2992	299					<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/6/2010	No#	707 E. 3rd St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	4488	449	1.79 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/6/2010	No#	598 E. 3rd St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	4488	449	1.64 before dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/9/2010	16039	470 E. 8th St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	2992	299	.11 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/9/2010	3770	420 E. 8th St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 minutes	1496	150	.06 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____

Notes:

*Monitoring turbidity of receiving water only where feasible.

City of Pittsburg Water Utilities

Planned Discharges of the Potable Water System (C.15.b.iii.(1))

Date of Discharge	Hydrant #	Site/Location	Discharge Type	Receiving Waterbody(ies)	Duration of Discharge	Volume (GAL)	Estimated Flow Rate (gallons/min)	Chlorine Residual (mg/L)	pH (standard units)	Discharge Turbidity (NTU)	Receiving Water Turbidity (NTU)*	Implemented BMPs & Corrective Actions
7/12/2010	No#	312 E. 12th St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2244	224	.08 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/12/2010	No#	677 Cumberland St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	4488	449	.08 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/13/2010	3750	19 Cambria Ct	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.09 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/13/2010	3746	2 Santa Cruz Ct	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/13/2010	3661	Cumberland St & E 4th St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2244	224	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/13/2010	3680	Cumberland St & E 4th St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/15/2010	No #	220 Avalon Cir - in front of	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	4488	449	.06 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/15/2010	No #	240 Avalon Cir - in front of	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5236	524	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/15/2010	6153	259 Pebble Beach Loop / Capitola Drive - in front	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.06 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/15/2010	16154	243 Pebble Beach Loop	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2244	224	.03 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/15/2010	5275	Pebble Beach Loop / Capitola Dr	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.02 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/15/2010	5274	Pebble Beach Loop across from Cumberland St	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	4488	449	.08 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/16/2010	5270	263 Avalon Cir	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.15 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/16/2010	No#	Stoneman Ave in front of Christian Center	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	11968	1197	.08 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/16/2010	110711841	Corner of St Moritz / Meadowbrook Cir	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	16456	1646	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____

Notes:

*Monitoring turbidity of receiving water only where feasible.

City of Pittsburg Water Utilities

Planned Discharges of the Potable Water System (C.15.b.iii.(1))

Date of Discharge	Hydrant #	Site/Location	Discharge Type	Receiving Waterbody(ies)	Duration of Discharge	Volume (GAL)	Estimated Flow Rate (gallons/min)	Chlorine Residual (mg/L)	pH (standard units)	Discharge Turbidity (NTU)	Receiving Water Turbidity (NTU)*	Implemented BMPs & Corrective Actions
7/16/2010	11052	Corner of St Moritz/ Goldenleaf Way	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2244	224	.02 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/16/2010	No#	3929 Meadowbrook Cir	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.04 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/16/2010	No#	1101 Stoneman Ave	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5984	598	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/16/2010	11054	Corner of St Moritz/ Fallenleaf Way	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	6732	673	.01 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/19/2010	No#	191 Baycrest Dr	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	1496	150	.12 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/19/2010	No#	278 Avalon Cir	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.10 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/19/2010	No#	111 Seapoint Way	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	1496	150	0.00 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/20/2010	10125	176 Riverway Dr	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2244	224	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/20/2010	10117	111 Edgewater Pl - on corner	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.04 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/20/2010	No#	Baycrest Dr/Edgewater Pl on corner	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/20/2010	No#	271 Shoreline Dr	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.08 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/21/2010	No#	Marina Blvd/3rd St on northeast side of Marina Blvd	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.04 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/21/2010	No#	51 Marina Blvd in front of Marina Plaza	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	182 Pelican Loop	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	6732	673	.04 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	132 Pelican Loop	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5984	598	.06 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____

Notes:

*Monitoring turbidity of receiving water only where feasible.

City of Pittsburg Water Utilities

Planned Discharges of the Potable Water System (C.15.b.iii.(1))

Date of Discharge	Hydrant #	Site/Location	Discharge Type	Receiving Waterbody(ies)	Duration of Discharge	Volume (GAL)	Estimated Flow Rate (gallons/min)	Chlorine Residual (mg/L)	pH (standard units)	Discharge Turbidity (NTU)	Receiving Water Turbidity (NTU)*	Implemented BMPs & Corrective Actions
7/22/2010	No#	51 Marina Blvd on southside of Plaza	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.00 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	31 Marina Blvd front of Dockside Market	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5236	524	.01 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	115 Pelican Loop	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5236	524	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	167 Pelican Loop	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	544	Marina Blvd end of Dockside Market Parking Lot	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	2992	299	.05 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	22 Pelican Ct	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.03 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	5 Pelican Ct	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5984	594	.02 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	210 Pelican Loop	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	8228	823	.03 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/22/2010	No#	195 Pelican Bay	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5236	524	.04 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/23/2010	No#	51 Marina Blvd Parking Lot	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	3740	374	.04 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____
7/23/2010	16123	2 Marina Blvd - round about	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned <input type="checkbox"/> Emer. Discharge	Sacramento River	10 min	5984	598	.07 after dechlorination				<input checked="" type="checkbox"/> Dechlorination <input type="checkbox"/> _____

Notes:

*Monitoring turbidity of receiving water only where feasible.